



# Quality Management Plan

IDEM's Quality Management System

Indiana Department of Environmental Management

July, 2001

July, 2001 - Indiana Department of Environmental Management.

IDEM reserves the right to change details in this publication without notice.

Indiana Department of Environmental Management  
Indiana Government Center North  
100 N. Senate Avenue  
Indianapolis, IN 46204

Phone: (317) 232-8603  
Toll-free (in Indiana): (800)-451-6027

Fax: (317) 233-6647

<http://www.in.gov/idem>

# Table of Contents

<b>Executive Summary .....</b>	<b>1</b>
<b>CHAPTER 1: Management and Organization.....</b>	<b>5</b>
<b>I. QUALITY ASSURANCE POLICY AND GOALS .....</b>	<b>5</b>
A. IDEM QUALITY ASSURANCE POLICY .....	5
B. IDEM QUALITY ASSURANCE GOALS .....	7
<b>II. IDEM ORGANIZATION AND QA STAFF ORGANIZATION .....</b>	<b>8</b>
A. IDEM ORGANIZATION.....	8
B. QA STAFF RESPONSIBILITIES .....	9
1. IDEM Commissioner .....	9
2. IDEM Deputy Commissioners .....	9
3. Program Managers.....	9
4. IDEM Quality Assurance Manager (IDEM QA Manager).....	10
5. Project Managers .....	12
6. Regional Offices.....	13
7. Other Program Area QA/QC Staff.....	14
a. Office of Air Quality (OAQ) QA/QC Staff.....	14
b. Office of Pollution Prevention and Technical Assistance (OPPTA) QA/QC Staff .....	34
c. Office of Land Quality (OLQ) QA/QC Staff .....	35
d. Office of Water Quality (OWQ) QA/QC Staff.....	46
e. Office of Enforcement (OE) QA/QC Staff .....	49
<b>CHAPTER 2: Quality System Components .....</b>	<b>55</b>
<b>I. QUALITY ASSURANCE SYSTEM AND DESCRIPTION .....</b>	<b>55</b>
<b>II. QUALITY ASSURANCE POLICY .....</b>	<b>55</b>
<b>III. PRINCIPLE COMPONENTS .....</b>	<b>56</b>
A. PROGRAMS COVERED BY THE QUALITY SYSTEM.....	56
B. ELEMENTS .....	58
C. PRINCIPAL IMPLEMENTATION TOOLS AND PRACTICES .....	59
1. Implementation Tools.....	59
a. Quality Management Plan (QMP).....	60
b. Data Quality Objectives (DQOs) .....	60
c. Quality Assurance Project Plans (QAPPs) .....	60
d. Standard Operating Procedures (SOPs) .....	62
e. Data Quality Assessment (DQA).....	63
f. Office of Water Quality Drinking Water Compliance Strategy & Ground Water Manual.....	63
2. Specific Program Implementation Practices .....	64
a. Office of Air Quality (OAQ) QA Procedures .....	64
b. Overview of Office of Land Quality QA Procedures.....	66
c. Overview of Office of Water Quality (OWQ) QA Procedures .....	76
d. Office of Enforcement QA Procedures.....	79
e. Internal Projects.....	80
f. External Projects (Grants, Contracts, Interagency Agreements).....	80
D. EVALUATION AND ASSESSMENT TOOLS .....	80
<b>CHAPTER 3: Personnel Qualifications and Training .....</b>	<b>83</b>
<b>I. PERSONNEL QUALIFICATIONS .....</b>	<b>83</b>
<b>II. PERSONNEL TRAINING .....</b>	<b>84</b>
A. IDENTIFICATION OF TRAINING NEEDS .....	84

B. OAQ TRAINING .....	87
Specific Personnel Qualifications and Training Component for the Lead-Based Paint Program .....	89
C. OLQ TRAINING .....	90
D. OWQ TRAINING.....	93
E. OFFICE OF ENFORCEMENT STAFF DATABASE TRAINING.....	94
<b>CHAPTER 4: Procurement of Items and Services .....</b>	<b>95</b>
<b>PROCUREMENT PROCEDURE .....</b>	<b>95</b>
A. PROCUREMENT DOCUMENTS .....	95
B. QUALITY ASSURANCE REQUIREMENTS.....	98
<b>CHAPTER 5: Documentation and Records .....</b>	<b>101</b>
<b>I. ROLES AND RESPONSIBILITIES .....</b>	<b>101</b>
CENTRAL FILE ROOM.....	101
<b>II. QUALITY ASSURANCE DOCUMENTS.....</b>	<b>102</b>
A. NATIONAL QA DOCUMENTS.....	102
B. QUALITY MANAGEMENT PLAN .....	102
C. TECHNICAL STANDARD OPERATING PROCEDURES.....	103
D. QUALITY ASSURANCE PROJECT PLANS .....	105
Office of Water Quality QAPPs .....	105
E. OTHER OLQ DOCUMENTS .....	106
F. PROJECT RECORDS AND DOCUMENTS.....	107
G. ELECTRONIC DOCUMENT AND RECORD RETENTION .....	108
H. HARD COPY RECORDS RETENTION .....	108
<b>CHAPTER 6: Computer Hardware and Software.....</b>	<b>111</b>
<b>COMPUTER HARDWARE/SOFTWARE REQUIREMENTS.....</b>	<b>111</b>
A. DATA INTEGRATION/SOFTWARE DEVELOPMENT .....	112
B. HARDWARE PLANNING/INFRASTRUCTURE MAINTENANCE .....	113
C. SYSTEMS/DATA SECURITY.....	113
D. DATA ACCESS .....	114
E. DATA AND INFORMATION .....	114
<b>CHAPTER 7: Planning.....</b>	<b>115</b>
<b>I. AGENCY PLANNING .....</b>	<b>115</b>
<b>II. PROJECT PLANNING.....</b>	<b>116</b>
A. Office of Air Quality Project Planning .....	117
B. Office of Land Quality Project Planning.....	118
C. Office of Water Quality Project Planning.....	120
<b>III. COMPONENTS OF PROJECT PLANNING PROCESS.....</b>	<b>120</b>
A. Identification of Project Staff .....	120
B. Identification of Data Users and Suppliers .....	121
C. Project Goals and Objectives.....	121
D. Schedule, Resources, and Constraints.....	121
E. Data Needs/Data Usage.....	121
OLQ Data.....	121
F. Performance Criteria .....	122

G. QA/QC Activities .....	122
1. OAQ QA/QC Activities.....	122
2. OLQ QA/QC Activities.....	122
3. OWQ QA/QC Activities .....	123
H. Data Collected by External Parties.....	123
1. OAQ Data from External Parties.....	123
2. OPPTA Data from External Parties.....	123
3. OLQ Data from External Parties .....	124
4. OWQ Data from External Parties.....	124
I. Analysis, Evaluation, and Assessment of Data .....	125
1. OAQ Assessment of Data.....	125
2. OPPTA's Assessment of Data.....	125
3. OLQ Assessment of Data .....	126
4. OWQ Assessment of Data.....	126
J. Quality Assurance Project Plan (QAPP) Review and Approval.....	126
1. OAQ QAPP Review and Approval .....	127
2. OLQ QAPP Review and Approval.....	127
3. OWQ QAPP Review and Approval.....	128
K. Evaluation and Qualification of Previously Collected Data .....	128
L. Health and Safety .....	128
<b>CHAPTER 8: Implementation of Work Processes .....</b>	<b>131</b>
<b>I. QMP IMPLEMENTATION .....</b>	<b>132</b>
A. QMP APPROVAL .....	132
B. QMP REQUIREMENTS FOR CONTRACTORS AND REGULATED ENTITIES.....	132
C. DISTRIBUTION OF QUALITY MANAGEMENT PLAN .....	133
D. MAINTENANCE OF THE QUALITY MANAGEMENT PLAN .....	133
E. QMP REVISION .....	133
F. EXPEDITED CHANGES TO THE QMP.....	133
<b>II. IMPLEMENTATION OF QAPPS .....</b>	<b>133</b>
A. QAPP PREPARATION AND REVIEW .....	133
B. QAPP APPROVAL .....	134
C. QAPP REQUIREMENTS FOR CONTRACTORS .....	134
D. QAPP DISTRIBUTION .....	135
E. QAPP MAINTENANCE .....	135
F. QAPP REVISIONS .....	135
G. EXPEDITED CHANGES TO QAPPs .....	136
H. OVERSIGHT OF QAPPs .....	136
<b>CHAPTER 9: Assessment and Response .....</b>	<b>137</b>
<b>I. QUALITY SYSTEM ASSESSMENT AND REVIEW .....</b>	<b>137</b>
A. ASSESSMENT PLANNING.....	138
B. ASSESSMENT TOOLS .....	138
1. Quality Systems Audits.....	139
2. Management Systems Reviews .....	139
3. Peer Reviews.....	140
4. Technical Reviews.....	141
5. Performance Evaluations .....	141
6. Data Quality Assessments (DQAs).....	142
7. Technical Systems Audits (TSAs) .....	142
C. RESPONSES AND CORRECTIVE ACTIONS .....	143

<b>II. ANNUAL ASSESSMENT REPORTING .....</b>	<b>144</b>
A. REPORTING FROM PROGRAMS.....	144
B. REPORTING TO THE USEPA .....	144
<b>CHAPTER 10: Quality Improvement.....</b>	<b>147</b>
<b>I. QUALITY IMPROVEMENT .....</b>	<b>147</b>
A. QUALITY IMPROVEMENT RESPONSIBILITIES.....	147
B. QUALITY IMPROVEMENT COMMUNICATION .....	149
C. MEASURING SUCCESS .....	149
<b>APPENDIX A: Acronym List.....</b>	<b>151</b>
<b>APPENDIX B: Glossary .....</b>	<b>157</b>
<b>APPENDIX C: References .....</b>	<b>161</b>
<b>APPENDIX D: OLQ Guidance and Nonrule Policy Documents.....</b>	<b>165</b>
<b>APPENDIX E: Technical References for OLQ Staff.....</b>	<b>171</b>
<b>APPENDIX F: RCRA Hazardous Waste Permitting Resource Summary Guide .....</b>	<b>175</b>
<b>APPENDIX G: Solid Waste Land Disposal Facilities Permitting Documentation Resource Summary Guide.....</b>	<b>177</b>
<b>APPENDIX H: Standard Operating Procedures (SOPs) Used by OLQ.....</b>	<b>179</b>
<b>APPENDIX I: Office of Air Quality (OAQ) Quality Assurance References .....</b>	<b>181</b>
<b>APPENDIX J: Office of Air Quality (OAQ) Standard Operating Procedures.....</b>	<b>185</b>
<b>APPENDIX K: IDEM Program Contacts for Production of Quality Management Plan .....</b>	<b>189</b>
<b>APPENDIX L: Accepted Documented Methodologies for the Lead-Based Paint Program.....</b>	<b>191</b>
<b>APPENDIX M: Guidelines for Preparing Quality Assurance Project Plans (QAPPs) for Section 319 Projects .....</b>	<b>193</b>
<b>APPENDIX N: Standards (COP) for Quality Assurance Project Plans (QAPPS) for Section 319 Nonpoint Source (NPS) Projects.....</b>	<b>195</b>
<b>APPENDIX O: Quality Assurance Project Plan Checklist for Section 319 and Other Projects .....</b>	<b>197</b>
<b>APPENDIX P: Multimedia Screening Checklist.....</b>	<b>199</b>

<b>Chart 1: IDEM Quality Assurance Org Chart.....</b>	<b>201</b>
<b>Chart 2: IDEM - Leadership Team .....</b>	<b>203</b>
I: Leadership Team When QMP Was Approved.....	203
II: Leadership Team as of October 15, 2001 .....	204
<b>Chart 3: IDEM Office of Air Quality Org Chart .....</b>	<b>205</b>
<b>Chart 4: IDEM Office of Land Quality Org Chart.....</b>	<b>211</b>
<b>Chart 5: Office of Water Quality Org Chart .....</b>	<b>217</b>
<b>Chart 6: Office of Pollution Prevention and Technical Assistance Org Chart .....</b>	<b>223</b>
<b>Chart 7: IDEM Office of Enforcement Org Chart.....</b>	<b>225</b>
<b>Chart 8: Northwest Regional Office Org Chart .....</b>	<b>227</b>
<b>Chart 9: Northern Regional Office Org Chart.....</b>	<b>229</b>
<b>Chart 10: Southwest Regional Office Org Chart.....</b>	<b>231</b>

**NOTE:** The organization charts contained in this QMP document are not completely accurate. The charts will be updated as the QMP is implemented.





# Executive Summary

The Indiana Department of Environmental Management (IDEM) Quality Management Plan (QMP), prepared in accordance with the requirements of the US Environmental Protection Agency (EPA) Order 5360.1, CHG 1, July 1998, defines the IDEM Quality Management System. The QMP describes specific quality management practices employed by IDEM for the following types of data generation and monitoring activities:



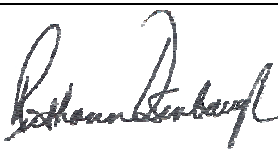






- Data generated by field sampling and laboratory analysis
- Data generated and used for design, construction, and operation of engineered remediation/treatment systems
- Data acquired from sources outside IDEM through databases, publications, modeling, etc.

The primary goal of the IDEM Quality Management System is to ensure that all of the Agency environmental programs produce results that are of known quality, and are of the type and quality needed for their intended uses. Because environmental data collected by IDEM is frequently used for regulatory decision making, that data must be appropriately documented, and scientifically and legally defensible.

IDEM's organization and management principles, as identified in this document, rely on staff empowerment and the encouragement of "quality" performance to attain the goals of this QMP. IDEM established a position of Quality Assurance Manager to assist in QA assessment and response activities. The IDEM Quality Assurance Manager is responsible for coordinating and managing IDEM's Quality Management System, and for preparation and presentation of specialized training to staff within the Agency's programs. The QMP specifies the general and program-specific Quality Systems required by EPA Region 5 to implement the principles outlined above.

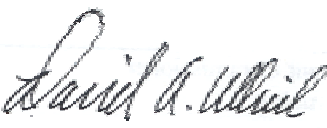



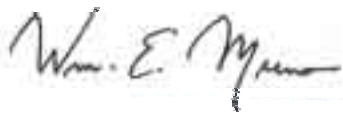
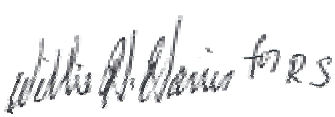

## IDEM QUALITY MANAGEMENT PLAN

**Table 1: IDEM Approvals**

Name/Title/Phone/E-Mail	Signature	Date
Lori F. Kaplan Commissioner (317) 232-8611 <a href="mailto:lkaplan@dem.state.in.us">lkaplan@dem.state.in.us</a>		6-25-01
Paula Smith Quality Management Plan Manager (317) 233-1210 <a href="mailto:psmith@dem.state.in.us">psmith@dem.state.in.us</a>		6-25-01
Ruthann "Rudy" Osenbaugh IDEM Quality Assurance Manager (317) 234-1627 <a href="mailto:rosenbau@dem.state.in.us">rosenbau@dem.state.in.us</a>		6-29-01
Tim Method, Deputy Commissioner Environmental Results (317) 233-3706 <a href="mailto:tmethod@dem.state.in.us">tmethod@dem.state.in.us</a>		6/25/01
Carole Casto Brubaker, Deputy Commissioner Environmental Operations (317) 232-8448 <a href="mailto:cbrubake@dem.state.in.us">cbrubake@dem.state.in.us</a>		6-25-01
Sylvia Wilcox, Deputy Commissioner Legal Affairs (317) 233-3706 <a href="mailto:swilcox@dem.state.in.us">swilcox@dem.state.in.us</a>		6-29-01
Janet McCabe, Assistant Commissioner Office of Air Quality (317) 232-5586 <a href="mailto:jmccabe@dem.state.in.us">jmccabe@dem.state.in.us</a>		6/25/01
Jim Mahern, Assistant Commissioner Office of Pollution Prevention & Tech. Assistance (317) 232-8172 <a href="mailto:jmahern@dem.state.in.us">jmahern@dem.state.in.us</a>		6-25-01
Mary Beth Tuohy, Assistant Commissioner Office of Land Quality (317) 234-0338 <a href="mailto:mtouhy@dem.state.in.us">mtouhy@dem.state.in.us</a>		6/25/01

Name/Title/Phone/E-Mail	Signature	Date
Bruce Palin Deputy Assistant Commissioner Office of Land Quality (317) 234-0338 <a href="mailto:bpalin@dem.state.in.us">bpalin@dem.state.in.us</a>		6/25/01
Matt Rueff, Assistant Commissioner Office of Water Quality (317) 232-8476 <a href="mailto:mrueff@dem.state.in.us">mrueff@dem.state.in.us</a>		6/25/01
Cynthia Collier, Assistant Commissioner Public Policy and Planning (317) 233-6645 <a href="mailto:ccollier@dem.state.in.us">ccollier@dem.state.in.us</a>		6/25/01
Felicia Robinson, Assistant Commissioner Office of Enforcement (317) 233-5523 <a href="mailto:frobinson@dem.state.in.us">frobinson@dem.state.in.us</a>		6/25/01

**Table 2: Region 5 EPA Approvals**

Name/Title/Phone	Signature	Date
David A. Ullrich Interim Regional Administrator (312) 886-3000		8/10/01
Kevin Bolger Regional Quality Assurance Manager (312) 886-6762		8/7/01
Norman Niedergang Director, Resources Management Division (312) 353-2024		8/20/01
Bharat Mathur Director, Air and Radiation Division (312) 353-2212		8/21/01
William E. Muno Director, Superfund Division (312) 353-9773		8/23/01
Robert Springer Director, Waste, Pesticides and Toxics Division (312) 886-7435		8/23/01
Jo Lynn Traub Director, Water Division (312) 353-2147		8/23/01

# CHAPTER 1

## Management and Organization

**Purpose** – To document the overall policy, scope, applicability, and management responsibilities of the Indiana Department of Environmental Management (IDEM) Quality System.

### I. QUALITY ASSURANCE POLICY AND GOALS

#### A. IDEM QUALITY ASSURANCE POLICY

It is the policy of IDEM that there will be sufficient quality assurance activities conducted by the environmental programs to provide a reasonable assurance that all environmental data generated and processed will be scientifically valid, of adequate statistical quantity, of known precision and accuracy, of acceptable completeness, representativeness, comparability, and where appropriate, legally defensible.

Environmental data quality is the responsibility of all IDEM staff who are directly or indirectly involved in the generation of internal data or collection and management of data generated externally. All Agency personnel are responsible for ensuring that items and services associated with the generation of environmental data within their areas of responsibility meet the needs to implement the Quality System. Individuals responsible for establishing or executing elements of the Quality System may delegate portions of the work but will retain responsibility for the accomplishment of such work. Senior Staff, Program Managers, and other personnel will, as appropriate, review and respond to any deficiencies, non-conformities, findings, or significant conditions related to their areas of responsibility.

To ensure that sound environmental decisions are made using data appropriate for the decision, IDEM will conduct all data collection and analysis activities (environmental data operations-EDO<sup>1</sup>), according to scientific methods and techniques that have been sanctioned or approved by the scientific community and/or USEPA.

It is the responsibility of all managers and staff to follow this policy under the guidance of the IDEM Quality Assurance Manager (IDEM QA Manager) and Quality Management Plan Manager (QMP Manager), which is the responsibility of the Director of the Office of Planning and Assessment. To ensure a Quality System is implemented, it is the intent of the Agency for Program Managers, IDEM Quality Assurance/Quality Control (QA/QC) staff, the QMP Manager, and the IDEM QA Manager (the Quality Assurance Team) to begin meeting, at a minimum, on a quarterly basis, and begin developing an assessment process for evaluating IDEM's Quality System.

---

<sup>1</sup> Environmental Data Operations is defined as "work performed to obtain, use, or report information pertaining to environmental processes and conditions."

These planning meetings will begin once the Agency Quality Management Plan is submitted, reviewed, and approved by EPA Region 5.

The IDEM QA Manager's role and responsibilities are defined later in this chapter (Management and Organization), and the lines of authority for the quality assurance system are delineated in Chart 1, "IDEM Quality Assurance Organizational Chart." The IDEM Quality Assurance Manager is a relatively new position within the Agency (position filled on 2-19-2001), and the working relationship of this position with the Program Office/Branch/Section QA/QC staff has not been fully developed nor implemented at this time.

The primary responsibility of the recently hired IDEM QA Manager has been to work with the Quality Management Plan Program Contacts to finalize production of IDEM's QMP by the June 1, 2001 EPA deadline. It is because of this priority work to finalize the QMP, that the IDEM QA Manager has not yet met with the bulk of the Program QA/QC staff. Within the next six (6) to nine (9) months, however, the IDEM QA Manager will schedule some Agency-wide QA/QC meetings to begin developing a process for assessing the quality of environmental data operations within the Agency, and to also further develop the Quality Assurance Team's membership and their roles and responsibilities in assessing this process (current team composition is listed on page 7 under the heading of Resources). The specific procedures/tools for assessing the Agency's Quality System will be developed as the IDEM QA Manager's working relationship with the Program Office/Branch/Section Managers, Program Office QA/QC staff, and the Quality Assurance Team is further defined and implemented within the Agency.

## **1. Communication and Implementation**

IDEM will ensure the Agency Quality System is understood and effectively implemented through program and project planning activities, the implementation of organizational and project-specific management controls, employee training programs, and ongoing assessment and quality improvement activities. These activities, programs, and controls are described in this QMP.

## **2. Annual Report**

The IDEM QA Manager will provide the Senior Management Team with an annual report concerning the effectiveness of the Quality System and the adequacy of resources associated with the achievement of quality. IDEM will consider these assessments and other factors in determining response actions.

### **3. Resources**

IDEM will ensure that resources are adequate to achieve and maintain quality in environmental programs. Resource allocations for quality assurance and quality control activities, including resources allocated to quality assurance programs and personnel, are determined on an annual basis at the Agency, Office, Branch, and Section level and are adjusted as necessary to achieve programmatic objectives. The Quality Assurance Team (currently comprised of the QMP Manager, the IDEM QA Manager, and the QMP Office Program Area Contacts), will work with the Deputy Commissioner of Environmental Results at the beginning of each fiscal year to maintain QA objectives.

### **4. Specific IDEM Policies Regarding a Quality System and Tools of Implementation**

- The IDEM Quality System will comply with, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (ANSI/ASQC E-4, 1994) for planning, implementing, and assessing quality assurance activities.
- Quality Assurance Project Plans (QAPPs) will be developed as project planning documents for major environmental data operations, and are reviewed and approved prior to collecting data to ensure that data quality issues are addressed. IDEM will implement a systematic planning process in QAPP development, and Data Quality Objectives (DQOs) are recommended as the preferred systematic planning tool for incorporation into quality assurance project plans.
- Organizations external to IDEM will have quality assurance systems documented in approved quality assurance management plans or quality assurance project plans that are consistent with IDEM policies and guidance.
- Managers and staff will receive quality assurance training as appropriate for their responsibilities related to data collection or environmental technology.

## **B. IDEM QUALITY ASSURANCE GOALS**

It is the intent of the Agency to attain the following IDEM quality assurance goals that support the IDEM Quality Assurance Policy:

- Communication on quality assurance issues and activities will be maintained among Senior Managers, the QMP Manager, IDEM's QA Manager, Program Managers, and other quality assurance (QA) staff
- Data quality objectives (DQOs) will be established for most environmental projects and documented before data collection activities begin
- Assessments will be performed to determine the effectiveness of the IDEM quality assurance system. Continuous improvement in the quality management system will be emphasized

- Quality assurance processes will be designed in the most cost-effective manner without compromising data quality

---

## II. IDEM ORGANIZATION AND QA STAFF ORGANIZATION

The quality assurance organizational chart is included as Chart 1, while several other organizational charts also accompany this Quality Management Plan. (See Charts One thru Ten).

### A. IDEM ORGANIZATION

The Indiana Department of Environmental Management (IDEM) is directed by the Commissioner who is appointed by the Governor. IDEM is organized into three functional divisions, as well as three (3) Regional Offices, which are directed by the Commissioner's Chief of Staff.

**The functional divisions are:**

**- Environmental Results**

- Office of Air Quality
- Office of Land Quality
- Office of Water Quality
- Office of Pollution Prevention and Technical Assistance

**- Environmental Operations**

- Office of Public Policy and Planning
  - Office of Media/Communications
  - Office of Community Relations
  - Office of Agricultural Relations
  - Office of Business and Legislative Relations
  - Office of Planning and Assessment
- Fiscal Management Division
- Business Services Division
- Human Resources

**- Legal Affairs**

- Office of Legal Counsel



- Office of Enforcement

**- Commissioner's Chief of Staff**

- Northern Regional Office
- Northwest Regional Office
- Southwest Regional Office

Except for the Commissioner's Office, Deputy Commissioners manage Divisions. (The Commissioner supervises the activities of staff reporting directly to him/her). Offices are managed by Assistant Commissioners or Office Directors. Offices may be comprised of one or more Branches managed by Branch Chiefs. Branches may contain one or more Sections, which are managed by Section Chiefs.

## **B. QA STAFF RESPONSIBILITIES**

The following IDEM managers and staff have the responsibilities described in the Quality Management Plan (QMP).

### **1. IDEM Commissioner**

The Commissioner has the overall responsibility for the development, implementation, and continued operation of the IDEM Quality System. The responsibility for coordinating and managing the quality assurance activities within IDEM are assigned to the IDEM Quality Assurance Manager.

### **2. IDEM Deputy Commissioners**

The Deputy Commissioners are responsible for ensuring the development, implementation, and continued operation of the IDEM Quality System within the Offices under their supervision.

### **3. Program Managers**

Assistant Commissioners, Office Directors, Branch Chiefs, and Section Chiefs (Program Managers) are responsible for ensuring that their internal and external data collection activities are conducted in accordance with the IDEM quality assurance policy. Daily quality assurance management is delegated from Assistant Commissioners to the appropriate Branch and Section Chiefs. The Branch and Section Chiefs are responsible for procedures within his/her area of program responsibility to ensure the acceptability of data generated and processed, and the suitability of environmental technology.

**Key responsibilities of Program Managers (defined above) are:**

- Attending meetings called by the IDEM QA Manager
- Providing status updates for their program to the IDEM QA Manager

- Establishing planning policies to ensure that QA matters are reflected in monitoring budgets, program plans, and operating plans
- Participating in the development of Data Quality Objectives (DQO's) for monitoring activities
- Reviewing and evaluating internal/external monitoring and QA implementation and progress
- Evaluating the quality of data generated by monitoring projects
- Taking corrective action as required by QA assessment or reviews
- Overseeing Project Managers' QA activities
- Reporting data quality problems to the IDEM QA Manager

#### **4. IDEM Quality Assurance Manager (IDEM QA Manager)**

The IDEM Quality Assurance Manager has the authority and responsibility for coordinating and managing the quality assurance activities within the Agency. The IDEM QA Manager is located in the Office of Planning and Assessment, which ensures the organizational independence of the IDEM QA Manager from the Agency Offices generating, compiling, and evaluating environmental data.

The IDEM QA Manager will have access to the appropriate levels of management to plan, assess, and improve the organization's Quality System by using the processes and procedures described in the Agency Quality Management Plan (QMP). The overall responsibility to ensure that the proper quality assurance/quality control (QA/QC) procedures are implemented lies with the IDEM QA Manager. The IDEM QA Manager is thus responsible for coordinating the development and maintenance of the Agency QMP. The specific duties and responsibilities of the IDEM QA Manager are listed below.

The IDEM QA Manager may recommend suspension of environmental data collection projects and request corrective action (CA) if quality assurance activities do not meet IDEM quality assurance policy nor requirements in the QMP. If the IDEM QA Manager believes data collection activities do not meet quality assurance requirements, the IDEM QA Manager will have the prerogative to meet with the Assistant Commissioner or the responsible Deputy Commissioner, if discussions with Program Managers fail to resolve the issue(s).

##### **Specific Duties and Responsibilities of the IDEM QA Manager are:**

- Serves as the official IDEM contact for all quality assurance matters
- Responds to quality assurance needs, resolves problems, and answers requests for guidance or assistance
- Assists in directing Program QA/QC staff to available information for the development of internal Quality Assurance Project Plans; assistance is based on Program QA/QC staff needs. Use of Data Quality Objectives (DQOs) is recommended for the development of Quality Assurance Project Plans, and the IDEM QA Manager will encourage Program Offices to establish Data Quality

Objectives using the DQO process (outlined in EPA guidance) when planning, developing, and writing QAPPs

- Tracks all approved Quality Assurance Project Plans, and will review and comment on a percentage of approved Quality Assurance Project Plans to ensure proper formatting, thoroughness, reasonableness, and that required signatures are present for both external and internal environmental data operations
- Reviews implementation of selected quality assurance plans, and will check with Program Managers on the status of the adequacy of data generated from a quality perspective
- Serves on the IDEM Peer Review Panel that will be established to review and approve study plans and reports for major special studies and other technical documents for publication and distribution. This review process will ensure that IDEM quality assurance requirements are incorporated in all major monitoring activities. (Until the Peer Review Panel is created, the Compliance/Enforcement (C/E) Team may serve in this capacity. The C/E Team has worked extensively on standardizing the IDEM's compliance/enforcement activities using a multimedia approach.)
- Assists IDEM programs in integrating EPA quality assurance requirements into procurements where environmental data collection activities are involved
- Assists IDEM programs in integrating EPA quality assurance requirements into IDEM activities where environmental data collection activities are involved
- Assists IDEM programs in integrating EPA quality assurance requirements into IDEM inter-agency agreements where environmental data collection activities are involved
- Coordinates and/or conducts system and performance audits of selected environmental monitoring programs
- Submits an annual Quality Assurance Status Report and Work Plan to IDEM management and EPA Region 5
- Reviews IDEM quality assurance activities [the newly created position of 'IDEM QA Manager,' (position filled 2-19-2001) is still in an investigative phase of 'learning' how the Agency Program Offices currently operate with regard to the QA/QC processes used in program environmental data operations. It is the intent of the IDEM QA Manager to begin to review, assess, and evaluate the QA/QC processes that are currently being used to see if current processes might be standardized and/or improved]. Once the QMP is finalized and approved by EPA Region 5, the development of an assessment process for IDEM's Quality System will begin
- Provides training opportunities on quality assurance policies and procedures
- Holds periodic QA meetings with Program Managers, Project Managers, and other QA staff to ensure consistency of QA procedures across programs
- Available to all Program QA/QC staff via a direct line of communication. The IDEM QA Manager has direct access to the Office of Planning and Assessment Director (QMP Manager), who in turn, has direct access to the Deputy Commissioner of

Environmental Results. Any quality assurance concerns may be elevated to the attention of Agency Senior Staff via the recently created IDEM Quality Assurance Manager position. All QA/QC staff may also use the traditional Program Office organizational lines of authority to elevate any concern regarding the Agency's quality assurance system

## 5. Project Managers

Project Managers are authorized to manage environmental projects to their conclusion, including work performed by contractors. Project Managers are accountable for the successful completion of project-related tasks and objectives. The Commissioner, Deputy Commissioners, Assistant Commissioners, Branch Chiefs, and the IDEM QA Manager have delegated authority to develop and implement aspects of the Quality System, including development and maintenance of QAPPs to Project Managers.

Project Managers are responsible for ensuring that environmental activities within their areas of responsibility are performed in accordance with applicable plans and procedures, work performance is measured against specifications, and appropriate management oversight and inspection is accomplished. Project Managers are also responsible for improving systems relating to specific projects as well as evaluating and controlling deficient items and activities (i.e., preventing inadvertent use or adverse impact on other items and services), determining root cause(s) of deficiencies and non-conformities, planning and implementing corrective actions, and verifying the effective and timely implementation of corrective actions. Program Managers, or their Designees, select Project Managers.

### **Project Managers perform the following tasks, when appropriate:**

- Attend meetings called by the Branch or Section Chief, the Assistant Commissioner, or the IDEM QA Manager
- Maintain a thorough knowledge of work activities, commitments, deliverables, and time frames associated with projects
- Develop necessary lines of communication and good working relationships between all staff and organizations participating in a project
- Ensure the program administrative services coordinator or grant budget coordinator, and the IDEM federal funds coordinator are informed of changes, revisions, or additions to the project
- Negotiate a list of expectations with the Grant Manager to ensure a clear understanding of the factors that may affect performance
- Monitor the effectiveness of the project Quality System
- Elevate problems and issues requiring resolution to the Branch or Section Chief, the Assistant Commissioner, or IDEM QA Manager for disposition
- Assist in preparing contracts and intergovernmental agreements
- Ensure project contractors understand their commitment to meet project goals and schedule commitments

- Enforce corrective action measures to ensure contractors meet project goals and scheduled commitments

## 6. Regional Offices

There are three Regional Offices within IDEM: the Northwest Regional Office (located in Gary, Indiana), the Northern Regional Office (located in South Bend, Indiana), and the Southwest Regional Office (Located in Evansville, Indiana). These Regional Offices perform some of the same program activities that are implemented within the Indianapolis based portion of the Agency, and these regional program activities are all monitored by the Indianapolis core Program Offices (Offices of Air, Land, and Water Quality; and the Office of Pollution Prevention and Technical Assistance).

The Regional Offices are comprised of a Director, Deputy Director, and there are other various line staff within each office, who perform the same program duties as the line staff in the Indianapolis based core programs. The number of employees in each Regional Office varies.

Quality assurance and quality control functions are monitored on a routine basis by each Regional Deputy Director, but the overall responsibility for Regional Office Quality System activities lies with the Assistant Commissioner and quality assurance/quality control (QA/QC) staff associated with each of the three main Indianapolis based core Program Offices within IDEM: the Office of Air Quality, the Office of Land Quality, and the Office of Water Quality. It is the Regional Office Deputy Director that communicates specifically with the Indianapolis based Program Branch Chiefs and Section Chiefs within each core program. All employees within the Regional Offices have a direct line of communication with the IDEM QA Manager as well, and concerns about the Agency Quality System may be elevated through the traditional lines of authority within their Office or Program or via the IDEM QA Manager.

The IDEM Regional Offices conduct themselves in a manner consistent with overall IDEM program goals and objectives. The specific QA responsibilities are consistent with the core Program Office QA/QC staff based in Indianapolis, and the Program Office QA/QC staff responsibilities and duties are described in more detail below.

IDEM Regional Office management staff conduct themselves in a manner to ensure uniformity of Program QA activities with the Indianapolis based core program activities.

It is the Agency's intent that as the "process" for assessing IDEM's Quality Management System is developed and implemented, the Regional Offices will be included in the planning and development stages of the assessment process.

## 7. Other Program Area QA/QC Staff

### a. Office of Air Quality (OAQ) QA/QC Staff

The OAQ is the state air pollution control office primarily responsible for issuing permits for new construction and operation of major and minor air pollution sources, compliance and monitoring activities, and for the implementation of many programs under the Federal Clean Air Act and State air pollution control laws. The Office performs many functions that involve the collection of environmental data. These include ambient air monitoring, emissions inventories, and compliance data. IDEM has quality assurance procedures in place to ensure that all data meets expected standards. Where local agencies (city or county) assist IDEM with data collection, IDEM holds other agencies to similar quality assurance standards.

The following information lists the specific responsibilities of individuals in the Office of Air Quality, and the list includes upper management, Office Branches, and the Sections within each Office Branch.

#### **OAQ Assistant Commissioner (AC)**

The Assistant Commissioner has overall responsibility for managing the Office of Air Quality (OAQ) according to Agency policy. The direct responsibility for assuring data quality rests with line management. Major QA related responsibilities of the Assistant Commissioner include:

- approving the budget and planning processes
- assuring that the OAQ develops and maintains a current and germane Quality System
- assuring that the OAQ develops and maintains current QAPPs or procedures and ensures adherence to the documents by staff, and where appropriate, extramural cooperators
- establishing policies to ensure that QA requirements are incorporated in all environmental data operations
- maintaining an active line of communication with the QA and technical managers
- reviewing and implementing the results of management systems reviews

The Assistant Commissioner delegates the responsibility of QA development and implementation in accordance with Agency policy to the OAQ Branch Chiefs and Section Chiefs. Oversight of the Office of Air Quality's monitoring QA program is delegated to the OAQ QA Section Chief.

## **(1) OAQ Air Monitoring Branch**

The Air Monitoring Branch consists of three (3) main sections, namely the Quality Assurance Section, the Ambient Monitoring Section, and Air Toxics Monitoring Section. The major responsibility of the Air Monitoring Branch is the implementation of a satisfactory monitoring program, which would naturally include the implementation of an appropriate quality assurance program. It is the responsibility of State and local agencies to implement quality assurance programs in all phases of environmental data operations, including the field, their own laboratories, and in any consulting and contractor laboratories, which may be used to obtain data. An EDO is defined as work performed to obtain, use, or report information pertaining to environmental processes or conditions.

### **OAQ Air Monitoring Branch Chief**

The Air Monitoring Branch Chief is the main point of contact for the three Air Monitoring Sections.

#### **Responsibilities of the Air Monitoring Branch Chief include:**

- implementing and overseeing the OAQ's QA policy within the Branch
- acting as a conduit for QA information to Branch staff
- assisting the Quality Assurance Section in developing QA policies and procedures
- coordinating the Branch's input to the Air Monitoring Annual Report
- assisting in solving QA-related problems at the lowest possible organizational level
- communicating with EPA, States, and other agencies with respect to monitoring and QA issues

The Air Monitoring Branch is responsible for overseeing the monitoring and QA activities of the Ambient Air Quality Monitoring Program.

#### **The Branch is therefore responsible for:**

- ensuring that up-to-date QAPPs are in place for all environmental data operations associated with Ambient Air Quality Monitoring Program
- ensuring that technical systems audits, audits of data quality, and data quality assessments occur within the appropriate schedules and conducting or participating in these audits
- tracking and ensuring the timely implementation of corrective actions
- ensuring that a management systems review occurs every 3 years
- ensuring that technical personnel follow the QAPPs

Each Air Monitoring Branch Section Chief has the authority to carry out these responsibilities and to bring to the attention of the Air Monitoring Branch Chief and the OAQ Assistant Commissioner any issues related to these responsibilities. The Air Monitoring Branch Chief delegates the responsibility of QA development and implementation in accordance with OAQ policy to the Air Monitoring Section Chiefs.



## **A. OAQ Air Monitoring Branch Quality Assurance Section**

The OAQ Quality Assurance Section is responsible for the development and distribution of QA/QC guidance and SOPs and assessing the quality of all ambient air monitoring data obtained. This group also provides program oversight to ensure that all monitoring QA/QC guidance and SOPs are being followed.

### **OAQ Quality Assurance Section Chief**

The OAQ Quality Assurance Section Chief is the delegated manager of the OAQ's QA Monitoring Program. The Quality Assurance Section Chief has direct access to the Air Monitoring Branch Chief and the OAQ Assistance Commissioner on all matters pertaining to quality assurance. The main responsibility of the Quality Assurance Section is QA oversight, and ensuring that all personnel understand OAQ's QA policy and all pertinent EPA QA policies and regulations specific to the Ambient Air Quality Monitoring Program. The Quality Assurance Section provides technical support, and reviews and approves QA products.

#### **Responsibilities of the Section Chief include:**

- developing and interpreting OAQ QA policy and revising it as necessary
- developing an Air Monitoring Annual Report for the Air Monitoring Branch Chief and OAQ Assistant Commissioner
- reviewing acquisition packages (contracts, grants, cooperative agreements, inter-Agency agreements) to determine the necessary QA requirements
- developing QA budgets
- assisting staff scientists and Project Managers in developing QA documentation and in providing answers to technical questions
- ensuring that all personnel involved in environmental data operations have access to any training or QA information needed to be knowledgeable in QA requirements, protocols, and technology of that activity
- reviewing and approving QAPPs for Ambient Air Quality Monitoring Program
- scheduling and implementing technical systems audits
- performing data quality assessments
- reviewing precision and bias data
- ensuring that environmental data operations are covered by appropriate QA planning documentation (e.g., QA project plans and data quality objectives)
- ensuring that review assessments and audits are scheduled and completed, and at times, conducting or participating in these QA activities
- tracking the QA/QC status of all programs
- recommending required management-level corrective actions
- serving as the program's QA liaison with EPA Regional QA Managers or QA Officers and the Regional Project Officer



The Quality Assurance Section has the authority to carry out these responsibilities and to bring to the attention of the Air Monitoring Branch Chief and OAQ Assistance Commissioner any issues associated with these responsibilities. The Quality Assurance Section delegates the responsibility of QA development and implementation in accordance with OAQ policy to the QA Environmental Managers and staff.

#### **B. OAQ Air Monitoring Branch Ambient Monitoring Section**

The Ambient Air Monitoring Section is responsible for all routine environmental data operations for the monitoring program.

##### **OAQ Ambient Monitoring Section Chief**

The Ambient Air Monitoring Section Chief is the delegated manager for routine Monitoring Program operations. This includes the QC activities implemented as part of normal data collection and regular field monitoring tasks.

##### **Responsibilities of the Section Chief include:**

- communication with EPA Project Officers and EPA QA personnel on issues related to routine sampling and QC activities
- understanding EPA monitoring and QA regulations and guidance, and ensuring subordinates understand and follow these regulations and guidance
- developing an Air Monitoring Annual Report for the Air Monitoring Branch Chief and the OAQ Assistant Commissioner
- understanding OAQ QA policy and ensuring subordinates understand and follow the policy
- understanding and ensuring adherence to QAPPs
- reviewing acquisition packages (contracts, grants cooperative agreements, inter-Agency agreements) to determine the necessary QA requirements
- developing budgets and providing program costs necessary for EPA allocation activities
- ensuring that all personnel involved in environmental data operations have access to any training or QA information needed to be knowledgeable in QA requirements, protocols, and technology
- recommending required management level corrective actions

The Air Monitoring Section delegates the responsibility of QA development and implementation in accordance with OAQ policy to the Ambient Monitoring Environmental Managers and staff.

#### **C. OAQ Air Monitoring Branch Air Toxics Section**

The Air Toxics Section is responsible for all routine environmental analytical laboratory operations for the monitoring program, as well as special projects.

##### **OAQ Air Toxics Section Chief**

The Air Toxics Section Chief is the delegated manager for overseeing the routine monitoring laboratory and QA activities of the Ambient Air Quality Monitoring Program.

##### **Responsibilities of the Section Chief include:**

- implementing and overseeing the OAQ's QA policy within the Branch
- acting as a conduit for information to Branch staff
- training staff in the requirements of the QA project plan and in the evaluation of QC measurements
- developing an Air Monitoring Annual Report for the Air Monitoring Branch Chief and OAQ Assistant Commissioner
- assisting staff scientists and project managers in developing laboratory standard operating procedures and appropriate field/lab QA/QC documentation
- ensuring that QAPPs are in place for all environmental data operations associated with the Ambient Air Quality Monitoring Program and that they are up to date
- ensuring that technical personnel follow the QAPPs

#### **D. OAQ Air Monitoring Branch Field Personnel**

**QA staff - 8 IDEM employees, contract employees and local Agency scientists. Ambient Monitoring Section - 11 IDEM staff, contract employees and local Agency scientists.**

The field personnel are responsible for carrying out required tasks and ensuring the data quality results of the tasks by adhering to guidance and protocol specified by QAPPs and SOPs for the field activities. QA personnel focus on independent oversight and evaluations of monitoring operations while Ambient Monitoring Section personnel provide daily QC functions.

**Responsibilities include:**

- participating in the development and implementation of the QAPPs
- participating in training and certification activities
- participating in the development of data quality requirements (overall and field) with the appropriate QA staff
- writing and modifying standard operating procedures (SOPs)
- verifying that all required QA/QC activities are performed and that measurement quality standards are met as required in the QAPP
- following all manufacturer's specifications
- performing and documenting preventative maintenance
- documenting deviations from established procedures and methods
- reporting all problems and corrective actions to the appropriate Air Monitoring Section Chief
- assessing and reporting data quality
- preparing and delivering reports to the Air Monitoring Section Chiefs and Branch Chief

- flagging suspect data
- preparing and delivering data to the Information Manager

#### **E. OAQ Air Monitoring Branch Laboratory Personnel**

**5 IDEM staff:** Laboratory personnel are responsible for carrying out required tasks and ensuring the data quality results of the tasks by adhering to guidance and protocol specified by the QAPPs and SOPs for lab activities.

**Responsibilities include:**

- participating in the development and implementation of the QAPP
- participating in training and certification activities
- participating in the development of data quality requirements (overall and laboratory) with the appropriate QA staff
- writing and modifying standard operating procedures (SOPs) and good laboratory practices (GLPs)
- verifying that all required QA/QC activities were performed and that measurement quality standards were met as required in the QAPP
- following all manufacturer's specifications
- performing and documenting preventative maintenance
- documenting deviations from established procedures and methods
- reporting all problems and corrective actions to the appropriate Air Monitoring Branch Section Chief
- assessing and reporting data quality
- preparing and delivering reports to the Air Monitoring Section Chiefs and Branch Chief
- flagging suspect data
- preparing and delivering data to the Information Manager

#### **F. OAQ Air Monitoring Branch Information Manager**

The Information Manager is responsible for coordinating the information management activities of the Ambient Air Monitoring Program. The main responsibilities of the Information Manager include ensuring that data and information collected for the Monitoring Program are properly captured, stored, and transmitted for use by program participants.

**Responsibilities include:**

- developing local data management standard operating procedures
- ensuring that information management activities are developed within reasonable time frames for review and approval

- following good automated data processes
- coordinating the development of the information management system with data users
- ensuring the development of data standards for data structure, entry, transfer, and archive
- ensuring the adherence to QAPPs where applicable
- ensuring access to data for timely reporting and interpretation processes
- ensuring the development of data base guides (data base structures, user guidance documents)
- ensuring timely delivery of all required data to the Aerometric Information Retrieval System (AIRS) system

#### **G. OAQ Air Monitoring Branch Shipping/Receiving**

**3 IDEM staff:** These support staff assist in the shipping and receiving of equipment, supplies, and consumables for the routine field/lab monitoring and QA activities of the Ambient Air Quality Monitoring Program.

**Their responsibilities include:**

- assisting in the development of standard operating procedures for shipping/receiving
- following SOPs for receiving, storage, chain-of-custody, and transfer of filters
- informing appropriate field/lab staff of arrival of consumables, equipment, and samples
- documenting, tracking, and archiving shipping/receiving records

#### **(2) OAQ Air Compliance Branch**

This Branch, which consists of four (4) sections, namely the Air Compliance Sections 1 & 2, the Compliance Data Section, and the Asbestos/Lead Section, is responsible for overseeing the compliance activities of the Air compliance Program and is therefore responsible for:

- developing and implementing an Air Compliance Branch Strategic Plan
- developing and implementing compliance and inspection strategies
- implementation of a quality assurance program for activities within the Branch
- implementation of the Regional Office Interface Plan
- implementation of the Local Agency Interface Plan

Each Air Compliance Section Chief has the authority to carry out these responsibilities and to bring to the attention of the Air Compliance Branch Chief and the OAQ Assistant Commissioner any issues related to these responsibilities. The Air Compliance Branch Chief delegates the responsibility of compliance development and implementation in accordance with OAQ policy to the Air Compliance Section Chiefs.

**OAQ Air Compliance Branch Chief**

The Air Compliance Branch Chief is the main point of contact for the four Air Compliance Sections.

**Responsibilities of the Air Compliance Branch Chief include:**

- developing and managing the implementation of air compliance and inspection programs
- advising, consulting, and communicating with the Assistant Commissioner and other Branch Chiefs
- maintaining effective and cooperative working relationships with Federal, State, and local agencies, and the Offices within IDEM and OAQ; the regulated industry; and the public
- improving the overall management effectiveness of the Air Compliance Branch through effective personnel management
- implementing and overseeing a quality assurance program for compliance activities within the Branch
- acting as a conduit for compliance information to Branch staff
- assisting the Compliance Sections in developing compliance policies and procedures
- assisting in solving compliance related problems at the lowest possible organizational level

**A. OAQ Air Compliance Branch Air Compliance Sections 1 and 2**

The two Air Compliance Sections are responsible for the inspection and compliance activities of all sources, with primary focus on Title V and Federally Enforceable State Operating Permit (FESOP) sources.

**OAQ Air Compliance Section 1 and 2 Chiefs**

The Air Compliance Section Chiefs are the delegated managers of the OAQ's Air Compliance Branch's air pollution inspectors. They have direct access to the Air Compliance Branch Chief and the OAQ Assistant Commissioner on all matters pertaining to compliance. The main responsibilities of these Section Chiefs are compliance activities including full compliance evaluation of Title V and FESOP sources.

**Responsibilities of the Section Chiefs include:**

- selection, training, and direction of staff and inspectors
- supervision of staff using principles of good management practices
- review of output of staff using principles of good management practices
- development, implementation, and evaluation of Section, Branch, Office and Agency priorities and strategic plans

- implementing and overseeing a quality assurance program for compliance activities including inspections, quarterly report reviews, annual certification reviews, and data reporting within the air compliance sections
- communication and coordination with source representatives, government agencies, and citizens
- coordination with IDEM Managers, USEPA, other IDEM Offices, Indiana Department of Transportation (INDOT), Indiana Department of Administration (IDOA), local health departments, Regional Offices and local agencies on inter-Agency air compliance issues
- preparation of special projects, presentations, and reports

The Air Compliance Sections(s) has/have the authority to carry out these responsibilities and to bring to the attention of the Air Compliance Branch Chief and the OAQ Assistant Commissioner any issues associated with these responsibilities.

## **B. OAQ Air Compliance Branch Compliance Data Section**

The Compliance Data Section is responsible for all routine environmental data operations for the source emission monitoring program.

### **OAQ Compliance Data Section Chief**

The Compliance Data Section Chief is the delegated manager of the OAQ's Compliance Data Program. The Compliance Data Section Chief has direct access to the Air Compliance Branch Chief and the OAQ Assistant Commissioner on all matters pertaining to compliance data. The main responsibilities of the Compliance Data Section are the compliance activities associated with stack testing, continuous opacity monitoring systems (COMS) and continuous emission monitoring systems (CEMS), quarterly report tracking, and annual compliance certification tracking. Responsibilities of the Section Chief include:

- implementing and overseeing a quality assurance program for compliance activities including protocol approvals, field test observations, and report reviews of stack tests and CEMS/COMS performance tests, and data tracking and reporting within the Compliance Data Section
- implementing and overseeing a quality assurance program to assure stack tests and CEMS/COMS data meet QA requirements specified in the EPA reference methods, State rules, and applicable delegated Federal rules and programs
- selection, training, and direction of staff
- supervision of staff using principles of good management
- review of output of staff using principles of good management
- development, implementation, and evaluation of Section, Branch, Office, and Agency priorities and strategic plans
- communication and coordination with source representatives, government agencies, and citizens

- coordination with IDEM Managers, USEPA, other IDEM offices, INDOT, IDOA, local health departments, Regional Offices, and local agencies on inter-Agency air compliance issues
- preparation of special projects, presentations, and reports

### **C. OAQ Air Compliance Branch Asbestos/Lead Section**

The Asbestos/Lead Section is responsible for the Asbestos NESHAP (National Emission Standards for Hazardous Air Pollutants), AHERA (Asbestos Hazard Emergency Response Act), and the Lead-Based Paint Program (LBPP).

#### **OAQ Asbestos/Lead Section Chief**

The Asbestos/Lead Section Chief is the delegated manager of the OAQ's Asbestos and Lead-Based Paint Program. The Asbestos/Lead Section Chief has direct access to the Air Compliance Branch Chief and the OAQ Assistant Commissioner on all matters pertaining to compliance. The main responsibilities of the Asbestos/Lead Section are the compliance activities including full compliance evaluation of contractors and implementing the licensing program.

#### **Responsibilities of the Section Chief include:**

- selection, training, and direction of staff and inspectors
- supervision of staff using principles of good management practices
- review of output of staff using principles of good management practices
- development, implementation, and evaluation of Section, Branch, Office, and Agency priorities and strategic plans
- communication and coordination with source representatives, government agencies, and citizens
- coordination with IDEM Managers, USEPA, other IDEM offices, INDOT, IDOA, local health departments, Regional Offices, and local agencies on inter-Agency air compliance issues
- review of asbestos and lead-based paint notifications
- licensing and oversight of asbestos and lead-based paint training course providers
- preparation of special projects, presentations, and reports
- oversight of the QA/QC activities associated with administering the Lead-Based Paint Program; and the Section Chief is also the principal QA contact for the Lead-Based Paint Program

#### **OAQ Air Compliance Branch Asbestos/Lead Section Lead-Based Paint Program:**

The Quality System has been implemented for all IDEM programs specifically listed in CHAPTER 2, "Quality System Components" (pg. 55), and throughout this Quality Management Plan the programs may be referenced separately under some QMP elements when applicable.



One such referenced program is the Lead-Based Paint Program. In Indiana, the Lead-Based Paint Program falls under the jurisdiction of the Asbestos/Lead Section of IDEM's Office of Air Quality Compliance Branch versus under the State Health Agency as in other EPA Region 5 states. Thus, the Quality System for IDEM's Lead-Based Paint Program is specifically described within each of the ten (10) QMP elements.

**Specific Management and Organization Component for the Lead-Based Paint Program:**

The Indiana Department of Environmental Management (IDEM) is the responsible Agency in the State of Indiana for the Lead-Based Paint Program to ensure compliance with the Toxic Substance Control Act (TSCA) Sections 402/404. The primary goals and mission of the program are to ensure compliance with TSCA 402/404, US Environmental Protection Agency regulations and policies, State statutes and rules for the licensing of lead professionals, approval of lead-based paint training course providers, and implementation of appropriate work practices in target housing and child-occupied facilities. In addition, IDEM provides public education and outreach to the community and affected parties.

Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities; Approval Authorization of State of Indiana Lead Activities Program:

[http://www.access.gpo.gov/su\\_docs/fedreg/frcont00.html](http://www.access.gpo.gov/su_docs/fedreg/frcont00.html) (Click on August 8, 2000)

**Summary:** On April 12, 2000, the State of Indiana submitted an application to EPA for approval to administer and enforce training and certification requirements, training program accreditation requirements, and work practice standards for lead-based paint activities in target housing and child-occupied facilities under section 402 of the Toxic Substances Control Act (TSCA). Indiana provided a self-certification letter stating that its program is at least as protective of human health and the environment as the Federal program and it has the legal authority and ability to implement the appropriate elements necessary to receive EPA approval. In the Federal Register (FR) of August 8, 2000 (65 FR 68498) (FRL-6593-2), EPA published a notice announcing receipt of the Indiana application. EPA did not receive any comments regarding any aspect of the Indiana program and/or application. This notice announces the approval of the Indiana application, and the authorization of the Indiana Department of Environmental Management's Lead-Based Paint Activities Program to apply in the State of Indiana, effective April 12, 2000, in lieu of the corresponding Federal Program under section 402 of TSCA.

Specifically, the IDEM Lead-Based Paint Program objectives are as follows, and these activities are accomplished through Indiana's House Enrolled Act 1181, which was effective May 13, 1997; and Indiana's Lead-Based Paint Rule (Indiana Administrative Code--326 IAC 23), which was effective February 1999.

- **Licensing** – IDEM is responsible for the licensure of all lead-based paint professionals (inspector, risk assessor, project designer, project supervisor, worker, and contractor), verification of appropriate training, educational/employment experience and the administration of the third-party examination for the disciplines of inspector, risk assessor, and project supervisor.
- **Training Course Providers** – IDEM is responsible for the approval of all lead-based paint training course providers and courses (inspector, risk assessor, project designer, project supervisor, worker). This program involves both desk audits and on-site audits to ensure full compliance with Federal and State requirements.
- **Work Practice Standards** – IDEM requires pre-notification of all lead-based paint abatement projects and maintains a database of such projects, and conducts on-site



inspections of abatement projects to ensure full compliance with Federal and State requirements. Sampling by IDEM inspectors is conducted using IDEM's sampling protocol, which incorporates EPA's "documented methodologies" for sampling, as well as the US Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing. (See Guidance Documents listed for asbestos/lead inspections on page 27). Sample analysis is then performed only by accredited National Lead Laboratory Accreditation Program (NLLAP) laboratories. NLLAP laboratories are accredited by the Association for American Laboratory Accreditation, and recognized by EPA.

- The Agency will implement State Work Practice Standards (WPS) that are at least as protective as Federal Regulations and Federal WPS.
- Compliance and Enforcement – IDEM is the Agency responsible for all enforcement actions and compliance monitoring to ensure that training course providers and instructors meet all rules, that individuals and contractors comply with and meet all required work practice standards.

The use of "documented methodologies" are required by Indiana's Lead-Based Paint Rule (326-IAC 23). The accompanying nonrule policy document (Air-025-NPD-Attached as APPENDIX L) lists the acceptable "documented methodologies." The rule is enforceable and methodologies not listed in the nonrule policy document will not be accepted by the Agency. The nonrule policy document also states that other equivalent methods and guidelines authorized by EPA will also be allowed.

IDEM's Lead-Based Paint Program is a regulatory program for the abatement of lead-based paint from target housing and child-care facilities, as well as an oversight program for the licensing and compliance and enforcement of lead-based paint contractors and training course providers.

Samples taken by IDEM inspectors (only collected for compliance purposes) are collected using the EPA Documented Methodologies of Sampling. These samples are then sent to an accredited NLLAP laboratory contracted by the Agency to perform lead analyses.

The Broad Agency Announcement (BAA) contract process (described in CHAPTER 4, "Procurement of Items and Services") ensures that only an accredited NLLAP laboratory, with the required Standard Operating Procedures (SOPs) and quality assurance policies and procedures in place, is selected to perform the analyses of lead samples for IDEM inspectors who might occasionally collect a sample while in the field on a compliance inspection.

The NLLAP contract language ensures the laboratory will have the required quality assurance policies and procedures regarding QA audits, chain-of-custody considerations, and requirements for any sample type collected in the field.

The types of lead measurements and samples to be done for each program component [dust, paint, soil, x-ray fluorescence (XRF)], are collected either by external, licensed contractors or IDEM internal inspectors using "Documented Methodologies." All samples are then submitted to an NLLAP laboratory for analysis.

IDEM does not internally perform any lead analyses, and they do not own or use any analytical equipment, specifically an XRF instrument. IDEM in-house lead inspectors do, however, receive training in the use of the XRF instruments while attending training school provider courses, and if any XRF instruments were to be purchased by the Agency, the inspectors would receive additional manufacturer training in the use of the XRF equipment. Because IDEM inspectors are trained in the use of XRF instruments, they are capable of evaluating the proper use of the XRF equipment by licensed contractors during on-site inspections. IDEM inspectors may also request licensed contractor records for abatement projects.

IDEM does not devote any one individual staff member to full-time activities on the Lead-Based Paint Program. Each member of the professional staff does, however, share a role in the reporting and oversight of the program mission. The Section Chief for the Asbestos/Lead Program under the Compliance Branch in the Office of Air Quality has the overall responsibility to ensure design, implementation, and modification to the program, as well as for oversight of QA/QC activities within the program.

Other Asbestos/Lead Program staff members share responsibilities for daily activities related to the program, as well as performing QA/QC functions within these program activities, including, but not limited to: issuance of licenses, training course approval, database management, inspection, and compliance/enforcement actions. Funding for these salaries has been in part through USEPA grants.

#### **D. OAQ Air Compliance Branch Field Personnel**

Field personnel under each of the four Air Compliance Branch Sections are responsible for making inspections or stack test observations and documenting findings in inspection reports. Experienced Air Compliance staff members train staff via a hands-on approach. A general position description is used to outline duties and performance criteria. A wide variety of SOPs and reference documents are incorporated into the training process. The SOPs and reference documents are listed below:

##### **Guidance and SOP's for general air compliance activities:**

- OAQ's Policies and Procedures Manual
- Notice of Intent to Enter and Inspect Under the Authority of IN Environmental Management Laws
- Performance Standards
- Regional Office Interface Plans
- Local Agency Compliance Interface Plan
- Compliance/Referral Policies

##### **Guidance and SOP's for air inspections:**

- EPA's Revised Compliance Monitoring Strategy
- EPA's Multimedia Investigation Manual
- IDEM's Category B Multimedia Screening Evaluations
- EPA's Inspection Protocol and Model Reporting Requirements for Stationary Sources

- EPA's Training and Development for Compliance Inspectors/Field Investigations
- Compliance Branch Model Inspection Report Format
- Inspector Training Plans

**Guidance and SOP's for stack test and CEMS/COMS review:**

- EPA's Quality Assurance Handbook for Air Pollution Measurement Systems
- SIP (State Implementation Plan) Requirements (40 CFR 51–Code of Federal Regulations) Test Methods
- Standards of Performance for New Stationary Sources (40 CFR 60) Test Methods and CEMS/COMS Performance Specifications
- NESHAPS (40 CFR 61) Test Methods and QA Procedures
- NESHAPS for Source Categories (40 CFR 63) Field Data Validation and Test Methods
- Acid Rain Program (40 CFR 75) Continuous Emission Monitoring

**Guidance for Asbestos/Lead Inspections:**

- Guidelines for Asbestos NESHAP Demolition/Renovation Inspection Procedures, EPA Document, November 1990
- Health and Safety Guidelines for EPA Asbestos Inspectors, EPA Document, March 1991
- Asbestos/NESHAP Demolition Decision Tree, EPA Document, June 1994
- Guide To Normal Demolition Practices Under The Asbestos NESHAP, EPA Document, September 1992
- Guidance Used For Lead Inspections
- Residential Sampling For Lead/Protocols For Dust And Soil Sampling, EPA Document, 1995
- Guidance On The Identification of Lead-Based Paint Hazards, EPA Document, September 1995
- Guidelines For The Evaluation and Control of Lead-Based Paint Hazards in Housing, HUD Document, June 1995, and revised 1997

**Guidance For Training Course Providers:**

- Desk Audit Form's (checklists) originally developed by EPA and updated as necessary due to Federal/State rule changes
- On-Site Audit Form's originally developed by EPA and updated as necessary due to Federal/State rule changes

- Midwest Regional Environmental Consortium (MWREC) states have agreed to use the same audit form for consistency. These forms will be modified as necessary, in agreement by MWREC members, as required in any future rule amendments

**Asbestos/Lead Licenses:**

- Guidance for issuing licenses originated from checklists generated from the regulations.

**E. OAQ Air Compliance Branch Activity Types**

- Title V and Federally Enforceable State Operating Permit (FESOP) source inspections
- Synthetic minor source inspections (FESOP, SSOA [Source Specific Operating Agreement], Permit by Rule)
- Complaint investigations
- Minor source and other source inspections
- Title V and FESOP quarterly reports
- Title V annual compliance certifications
- Synthetic minor source annual compliance certifications (FESOP, SSOA)
- Minor source annual compliance certifications
- Title V source stack tests
- Synthetic minor source stack tests (FESOP, SSOA)
- Title V CEM/COMS
- NESHAP source
- NSPS (New Source Performance Standards)
- Asbestos and Lead-based paint notifications
- Asbestos and Lead-based paint licensing
- Asbestos and Lead-based paint training course providers
- Asbestos inspections
- AHERA inspections

**Databases**

- Information Targeting System
- Enforcement
- Warning/Letter
- Complaint

- Stack Test
- CEM/COMS
- Asbestos and Lead-based paint notifications
- Asbestos and Lead-based paint licensing
- Asbestos and Lead-based paint training course providers
- AHERA inspections
- CAATS (Computer Assisted Approval and Tracking System)
- METS (Multimedia Enforcement Tracking System)
- Chrome
- Drycleaners
- Stage I and II

### **(3) OAQ Air Programs Branch**

This Branch, which consists of three (3) sections, namely the Technical Support and Modeling Section, the Program Planning and Policy Section, and the Inspection/Maintenance/Billing (I/M/Billing) Section, is responsible for overseeing the program activities of the Office of Air Quality and is therefore responsible for:

- developing an Air Programs Branch Strategic Plan
- developing rules to support OAQ objectives
- providing outreach to the public (information communication and technical support)
- tracking and evaluating facility emission information
- billing for air permits,
- maintaining a quality Inspection/Maintenance (I/M) Program for Indiana
- providing modeling and technical support for OAQ programs

#### **OAQ Air Programs Branch Chief**

The Air Programs Branch Chief is the main point of contact for the four Air Programs Sections.

#### **Responsibilities of the Air Programs Branch Chief include:**

- managing air rule development
- developing and implementing program planning and technical support
- advising, consulting, and communicating with the Assistant Commissioner and other Branch Chiefs

- maintaining effective and cooperative working relationships with Federal, State, and local agencies, and the Offices within IDEM and OAQ; the regulated industry; and the public
- improving the overall management effectiveness of the Air Programs Branch through effective personnel management
- implementing and overseeing a quality assurance program for Air Programs activities
- acting as a conduit for program information to Branch staff
- assisting the Air Programs Sections in developing policies and procedures
- assisting in solving program related problems at the lowest possible organizational level

Each Air Programs Section Chief has the authority to carry out these responsibilities and to bring to the attention of the Air Programs Branch Chief and the OAQ Assistant Commissioner any issues related to these responsibilities. The Air Programs Branch Chief delegates the responsibility of a wide range of program development and implementation in accordance with OAQ policy to the Air Programs Section Chiefs.

#### **A. OAQ Air Programs Branch Technical Support and Modeling Section**

The Technical Support and Modeling Section is responsible for collecting annual emissions information. For point sources, this program is derived from 326 IAC 2-6, Emissions Reporting. Applicability, definitions, compliance schedules, and information to be reported are contained in this rule. The involved emissions data include point, area/stationary, and mobile sources. Procedures for collection and QA/QC of this information are found in "Introduction and Use of EIIP Guidance for Emissions Inventory and Development," EPA Emission Inventory Improvement Program, 1997.

This Section is also responsible for performing modeling to support issuance of permits and State Implementation Plan development. The computer programs (Models) are EPA Guideline models, (i.e., models that have been approved and recommended for use by states and other agencies for regulatory purposes) (latest version of 40 CFR 51 Appendix W Guideline on Air Quality Models, 7-1-99). These are developed by EPA or its contractors and peer-reviewed on a national level. IDEM has no access to source code.

SOPs are in the form of EPA's publication, (1) "Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD)," EPA-450-4-87-007, May 1987; and (2) our own guidelines distributed to outside parties, "AIR QUALITY MODELING POLICIES, DRAFT, Indiana Department of Environmental Management, Office of Air Management, Technical Support and Modeling Section, April 2000."

##### **OAQ Technical Support and Modeling Section Chief**

The Technical Support and Modeling Section Chief is a delegated manager of the OAQ's Air Programs Branch. The Section Chief has direct access to the Air Programs Branch Chief and the OAQ Assistant Commissioner on all matters pertaining to technical support and modeling.

##### **Responsibilities of the Section Chief include:**

- selection, training, and direction of staff
- supervision of staff using principles of good management practices

- review of output of staff using principles of good management practices
- coordination with IDEM Managers, USEPA, other IDEM offices, multi-state organizations, Regional Offices, other States, and local agencies
- preparation of special projects, presentations, and reports
- implementing and overseeing the OAQ's QA policy for the Section
- ensuring that Section staff receive QA requirement training

**The following staff have QA responsibilities in this Section:**

**Senior Environmental Manager:**

- coordinates QA activities within the emissions statement group
- develops QA procedures including automating procedures
- assists in training staff in QA procedures
- performs QA procedures

**Environmental Engineer, and 3--Environmental Scientists 3:**

- perform QA procedures
- work with companies to resolve problems
- document results of findings
- assist in developing or modifying QA procedures

**Point Sources**

Emissions statements are received annually from more than 1,200 sources across the State. Most sources in nonattainment counties are required to report the previous year's emissions by April 15 of the following year. Sources in attainment counties must report by July 1. A responsible official of the company signs the forms. These reports are submitted in electronic or paper form. State personnel put information submitted on paper forms into electronic format. The electronic forms are then compiled into a single database using the Indiana State Emissions Processing System (I-STEPS) Program provided by Pacific Environmental Services.

**Area Sources**

This category represents emissions estimates for any remaining stationary sources not reporting to the emission statement program. These can include personal product use, agricultural activities, small businesses, and other activities not reported by large industrial sources. The estimates are based on EPA guidance (the EIIP documents, memoranda, and other procedure documents). Random calculation checks are made to ensure the quality and accuracy of the estimates. To further ensure the quality of the inventory, comparison checks are made on the statistical data to find typographical errors.

**Mobile Sources**

The emissions for this category are typically based upon EPA emission factors (from various sources including emissions factor models and others) and Indiana Department of Transportation roadway usage estimates (HPMS–Highway Performance Monitoring System data). The data are incorporated to enhance the accuracy of the estimates. Comparisons were made to ensure that the data were entered correctly, and random calculations reviewed to check the accuracy of the formulas used to create the estimates.

**B. OAQ Air Programs Branch Program Planning and Policy Section**

The Program Planning and Policy Section is responsible for all the routine environmental data operations for the Regional Air Pollutant Inventory Development System (RAPIDS).

**Some of this Section's responsibilities include:**

- Area/Mobile/Point Source inventory development
- QA/QC of estimated and reported Hazardous Air Pollutant data
- Area source inventory method development
- Hazardous Air Pollutants to be included in the inventory
- Participate in bi-monthly calls and bi-quarterly meetings to update state partners on inventory progress

**OAQ Program Planning and Policy Section Chief**

The Program Planning and Policy Section Chief is the delegated manager for the OAQ's RAPIDS Program and the Transportation conformity Air Quality Analysis Program. The Program Planning and Policy Section Chief has direct access to the Air Programs Branch Chief and the OAQ Assistant Commissioner on all matters pertaining to data gathering and input into these systems.

**Responsibilities of the Section Chief include:**

- selection, training, and direction of staff
- supervision of staff using principles of good management practices
- review of output of staff using principles of good management practices
- development, implementation, and evaluation of Section, Branch, Office, and Agency priorities and strategic plans
- communication and coordination with source representatives, government agencies, and citizens
- implementing and overseeing a quality assurance program for planning and policy activities
- coordination with IDEM Managers, USEPA, other IDEM Offices, INDOT, USDOT (US Dept of Transportation), Metropolitan Planning Organizations (MPOs), Regional Offices, other States, and local agencies
- preparation of special projects, presentations, and reports

**The following staff have QA responsibilities in this section:**



**Two (2) Environmental Managers for Regional Air Pollutant Inventory Development System (RAPIDS) Program:**

- assists in the implementation of this multi-State effort, which is coordinated by USEPA
- develop QA procedures including automating procedures
- assists in training staff in QA procedures

**Various Environmental Managers that work in the Transportation Conformity Air Quality Analysis Program:**

- perform QA procedures as the model is assembled (MPO)
- perform QA procedures as multi-Agency consultation (users)
- perform QA procedures as conformity review (Program Planning staff)

The SOP's/procedures used are found in: "The Air Toxics Emissions Inventory Protocol for the Great Lakes States," Radian Corp, June 1994.

**C. OAQ Air Programs Branch Inspection/Maintenance (I/M)/Billing Section**

The I/M Billing Section is responsible for all the routine environmental data operations for the Regional Air Pollutant Inventory Development System.

**OAQ I/M/Billing Section Chief**

The I/M/Billing Section Chief is the delegated manager for the OAQ's I/M Testing Programs. The Section Chief has direct access to the Air Programs Branch Chief and the OAQ Assistant Commissioner on all matters pertaining to data gathering and input for this program.

For the Inspection/Maintenance program various Environmental Managers verify contractor (Envirotest) monitoring and QA/QC performance. Envirotest has contractual requirements for QA/QC to ensure proper operation of equipment and collection of data. Contractual requirements are consistent with Indiana's Request for Proposal (RFP) and 40 CFR Part 51. Acceptance Test Procedure audits were conducted at each vehicle emission testing facility and on the entire data-handling network before the test sites were permitted to begin operations. Independent auditors contracted by IDEM conduct periodic reviews of data and data handling systems. The Clean Air Car Check Station Operations Manual and Headquarters Operation Manual contain procedures for proper operation of equipment and collection of data. The Clean Air Car Check Quality Control and Maintenance Manual specifically addresses maintenance schedules and equipment maintenance, calibration, and audit methodologies. These documents are proprietary, but are available for inspection by USEPA. State I/M field personnel perform periodic review of maintenance and calibration data at each test site. I/M field personnel also conduct periodic gas challenge audits of the exhaust emissions analyzers.

**Billing is conducted through the following process:**

Permit holders pay fees based upon 326 IAC 2-7-19 ----- Part 70 permits: fees. In this section of the rule, it states that permit fees are to be based upon tons of certain emitted pollutants. The basis of calculating these tons is from the previous year's emission statements. Emissions statements are based upon 326 IAC 2-6, Emission Reporting. Rule 326 IAC 2-6 specifies applicability, definitions, compliance schedule, and information to be submitted. Included in these are references to data quality specifications and need for certification by responsible individual.

**D. OAQ Air Programs Branch Rule Development/Program Support Section**

No environmental data work is done in this section; thus, the program activities are not included in the QMP.

**b. Office of Pollution Prevention and Technical Assistance (OPPTA)  
QA/QC Staff****(1) OPPTA Pollution Prevention Branch**

The Pollution Prevention Branch provides an active outreach program, which promotes pollution prevention to Indiana industry and within the Indiana Department of Environmental Management. Our promotion of pollution prevention includes the annual Governor's Awards for Excellence in Pollution Prevention; the Indiana Partners for Pollution Prevention; and the integration of pollution prevention into regulatory programs within IDEM. The Branch also manages the State's Toxic Release Inventory program.

**OPPTA Pollution Prevention Branch Chief**

The Pollution Prevention Branch Chief within OPPTA is the State Toxic Release Inventory (TRI) Program Coordinator. The Branch Chief uses the annually reported TRI data for toxics reduction planning, voluntary compliance policy development, and outreach efforts. The Branch Chief oversees public access to the data through its Web site and hard copy files. The Branch Chief also drafts the Office progress reports on statewide pollution prevention efforts, provides input for the Agency's State of the Environment Report, and supports the development of the Governors Toxic Reduction Challenge progress report, which uses the quality assured TRI data for measurement.

**The following staff have QA responsibilities in this Branch:****Environmental Engineer I (primary function)****This position's QA responsibilities include:**

- Supporting the day to day QA functions associated with data analysis
- Researching TRI data from many sources to confirm consistency of State data
- Developing toxic chemical reduction progress reports using TRI data
- Making direct facility contact to verify TRI reported information
- Developing outreach schedules and agendas for annual TRI compliance assistance workshops

**Environmental Manager (primary function)****This position's QA responsibilities include:**

- Managing and developing the electronic TRI database
- Directing the Form R management processes used for annual data input and public access to files
- Supporting the TRI Web site development
- Making direct facility contact to verify annual TRI reported information
- Developing QA data analysis queries for the annual QA process
- Preparing annual QA letters for reporting facility responses

### **c. Office of Land Quality (OLQ) QA/QC Staff**

The Office of Land Quality is the state land pollution office primarily responsible for the permitting, compliance, monitoring, and remediation of solid and hazardous waste generators and facilities in the state. The programs within this office perform many functions that require the collection of data and other forms of environmental information. These include waste determinations and analysis; soil, surface water, ground water, and waste sampling; Geographic Information System (GIS) data; risk determination; cleanup levels; nature and extent of contamination; facility reporting; and geologic and engineering data. OLQ has quality assurance procedures in place to ensure that all data meets expected standards. Where the regulated community or IDEM contractors provide OLQ with various forms of environmental data, OLQ holds these entities to similar quality assurance standards.

OLQ is organized into three (3) Branches responsible for regulatory functions (Compliance and Response, Permits, and Remediation Service), and two (2) support Branches (Operation and Information, Science Services). Each Branch is managed by a Branch Chief who coordinates and oversees all activity within the Branch.

The following information lists specific responsibilities of each position in OLQ that has QA functions. It is grouped by the Office's organizational chart (see Chart 4) - Science Services Branch, Remediation Services Branch, Compliance and Response Branch, Permits Branch, and Operation and Information Branch.

The Risk Management Branch duties are currently being re-evaluated by Senior Management and no Branch activities are listed in Chart 4.

#### **OLQ Assistant Commissioner and Deputy Assistant Commissioner**

The Assistant Commissioner (AC) and Deputy Assistant Commissioner (DAC) share overall responsibility for managing the Office of Land Quality. The direct responsibility for assuring data quality rests with the line management. Ultimately the Assistant Commissioner and Deputy Assistant Commissioner establish QA policy and resolve QA issues.

#### **The major responsibilities include:**

- approving the budget and planning process
- assuring development and maintenance of a Quality System
- assuring development and maintenance of the QAPPs
- establishing policies to ensure that QA requirements are incorporated into all environmental data operations

- maintaining an active line of communication with the QA and technical managers
- reviewing and implementing the results of management systems reviews
- providing policy guidance for the RISC (Risk Integrated System of Closure) program

The Assistant Commissioner and Deputy Assistant Commissioner delegate the responsibility of QA development and implementation, in accordance with Agency policy, to the OLQ Branch Chiefs and Section Chiefs.

In general, the Branch Chiefs and Section Chiefs are the primary QA Managers for OLQ.

**Responsibilities of the OLQ Section Chiefs include:**

- hiring and training staff
- ensuring staff evaluations of documents are environmentally protective, technically accurate, and adhere to all QA/QC protocols
- ensuring staff consultations and advice is technically accurate and timely
- ensuring all staff involved in data collection are knowledgeable in QA requirements, protocols, and technology

## **(1) OLQ Operations and Information Branch**

The Operations and Information Branch is responsible for providing contract management, financial support, operational support, and rule development services to the other OLQ Branches.

**OLQ Operations and Information Branch Chief**

The Operations and Information Branch Chief is the main point of contact and manages the activities of the Finance & Operations Section and the Rules, Planning, and Outreach Section.

**Responsibilities of the Branch Chief include:**

- implementing and overseeing OLQ's QA policy within the Branch
- acting as a conduit for QA information within the Branch
- assisting in development of QA policies and procedures
- assisting in solving QA related problems at the lowest possible organizational level

### **A. OLQ Finance & Operations Section**

The Finance and Operations Section is responsible for financial and budgetary management including: the management of 35 grants, numerous contracts, and coordination of 11 fund centers. The Section also provides support to the rest of OLQ in the following areas: inventory control, motor pool, computers, and file maintenance.

**Senior Environmental Manager 1, Budget Analyst 2, Program Director 2, Grant Coordinator 2, Environmental Manager 2, Grant Coordinator 3, Environmental Scientist 3, Administrative Assistant 4, and Administrative Assistant 6.**

**The responsibilities of these positions include:**

- grant coordination and management

- contract development and oversight
- equipment inventory and maintenance
- coordination with other Offices and staff

#### **B. OLQ Rules, Planning, and Outreach Section**

The Rules, Planning, and Outreach Section is responsible for rules development, planning, and outreach activities within OLQ.

**Senior Environmental Manager 1, Environmental Manager 2, Information Director 2, Environmental Scientist 3, and Administrative Assistant 3.**

**The responsibilities of these positions include:**

- rule development and education
- coordination with other Offices and staff

#### **(2) OLQ Science Services Branch**

The Science Services Branch is responsible for providing technical support for OLQ's programs in the areas of geology, chemistry, GIS, health and safety, risk assessment, and data analysis.

##### **OLQ Science Services Branch Chief**

The Science Services Branch Chief is the main point of contact and manages the activities of two Chemistry Services Sections, one Geological Services Section, one Applied Science Technologies Section, and one Facilities Data Analysis Section.

**Responsibilities of the Branch Chief include:**

- implementing and overseeing OLQ's QA policy within the Branch
- acting as a conduit for QA information within the Branch
- assisting in development of QA policies and procedures
- assisting in solving QA related problems at the lowest possible organizational level

##### **Senior Technical Advisor - OLQ Data Coordinator**

**The responsibilities of this position include:**

- providing overall data coordination for OLQ
- overseeing the development and modification of OLQ data standards
- oversight of GLI (Great Lakes Initiative) contracts and activities,
- reviewing and approving proposals for new or revised data management systems
- coordinating data management, GIS, and Web activities for OLQ

## **A. OLQ Chemistry Services Section**

The two Chemistry Services Sections are responsible for reviewing data collected during environmental sampling or monitoring activities. The Chemistry Services Sections provide support to all OLQ regulatory program areas including Resource Conservation and Recovery Act (RCRA--Solid and Hazardous Waste), Superfund, Defense Environmental Restoration Projects (DERP), Natural Resources Damage Assessment (NRDA), Site Assessment, State Cleanup, Leaking Underground Storage Tanks (LUST), Emergency Response, Industrial Waste, and Voluntary Remediation Program (VRP).

### **Chemist 1, Chemist 2, and Chemist 3**

#### **The responsibilities of the Chemist positions include:**

- reviewing Sampling and Analysis Plans (SAP) and OLQ's Quality Assurance Project Plans for Laboratory Analysis (QAPjP) (See APPENDIX B for definition of QAPjP)
- determining the adequacy of sampling techniques used to collect data
- reviewing sampling and analysis results to ensure that proper sampling procedures and laboratory procedures were followed
- reviewing analytical data to ensure that analytical methods used for analysis comply with SW-846 or the project specific Contract Laboratory Procedures (CLP)
- reviewing waste analysis plans
- reviewing waste classification data to determine adequacy of the analysis

#### **In addition to the above listed responsibilities, Chemist 1 staff are also responsible for:**

- reviewing the work of Chemist 2 and Chemist 3 staff
- developing SOPs and guidance documents on proper sampling and analysis procedures
- providing training of Chemist 2 and Chemist 3 staff

## **B. OLQ Geological Services Section**

The Geology Section is responsible for reviewing site assessment and hydrogeological data. The Geological Services Section provides support to OLQ remediation program areas including Superfund, DERP, NRDA, Site Assessment, State Cleanup, LUST, Emergency Response, and VRP.

### **Geologist 1, Geologist 2, and Geologist 3**

#### **The responsibilities of the Geologist positions include:**

- making recommendations on monitoring networks and sampling plans to ensure proper QA is observed
- tabulating and interpreting data
- assists in sampling and performing field tests and provides oversight for soil borings, and well installation
- reviewing cleanup plans

- maintaining the OLQ Sampling Database

### **C. OLQ Applied Science Technologies Section**

The Applied Science Technologies Section is responsible for managing and coordinating the Office's GIS efforts and the Great Lakes Initiative (GLI) activities, providing technical expertise for risk assessments, providing engineering services for remediation projects, and coordinating health and safety efforts for OLQ. The Applied Science Technologies Section is responsible for managing and coordinating the Office's GIS (Geographic Information System) and GPS (Global Positioning System). Divisions of the Applied Science Technologies Section provides support to all OLQ regulatory program areas including RCRA (Solid and Hazardous Waste), Superfund, DERP, NRDA, Site Assessment, State Cleanup, LUST, Emergency Response, Industrial Waste, and VRP.

**Environmental Engineer 1, Environmental Engineer 2, Geologist 1, Geologist 2, Environmental Manager 2, and Environmental Scientist 3**

**The responsibilities of these positions include:**

- providing Global Positioning Systems data QA
- providing Geographic Information Systems QA and technical oversight
- providing engineering QA through technical evaluations of Remediation Services Branch documents
- providing QA of health and safety plans
- providing QA of statistics for the Risk Integrated System of Closure (RISC)
- providing QA for plume stability reviews for RISC

### **D. OLQ Facilities Data Analysis Section**

The Facilities Data Analysis Section is responsible for managing and coordinating the Office's data management needs, including the Locational Data Improvement Initiative (LDI). The Facilities Data Analysis Section provides support to all OLQ regulatory program areas including RCRA (Solid and Hazardous Waste), Superfund, DERP, NRDA, Site Assessment, State Cleanup, LUST, Emergency Response, Industrial Waste, and VRP

**Senior Environmental Manager 1, Environmental Manager 2, and Environmental Scientist 3**

**The responsibilities of these positions include:**

- maintaining the Indiana RCRA Activity Tracking System (IRATS) and the Underground/Leaking Storage Tank CERCLIS Environmental Response System (ULCERS) databases
- conducting and providing QA on the RCRA Biennial Report and various other annual reports
- providing QA and cleaning up existing OLQ databases under the Locational Data Improvement Initiative (LDI)
- establishing QA standards and protocols for compliance information and general facility information



### **(3) OLQ Remediation Services Branch**

The Remediation Services Branch is responsible for providing oversight of assessment and cleanup activities for active and abandoned facilities. The following programs are administered through the Branch:

- Brownfields
- State Cleanup\*
- Immediate Removals\*
- Site Assessment
- Abandoned Landfill\*
- Superfund
- Natural Resources Damage Assessment (NRDA)
- Defense Environmental Restoration Projects (DERP)
- Leaking Underground Storage Tanks (LUST)
- Voluntary Remediation Program (VRP)
- RCRA Corrective Action

\* These programs are State funded.

#### **OLQ Remediation Services Branch Chief**

The Remediation Services Branch Chief is the main point of contact and manages the activities of the Voluntary Remediation Section; Leaking Tank Section; Federal Cleanup, Superfund and NRDA Section; State Cleanup, Removals and RCRA Corrective Action Section; and Site Assessment and Brownfields Section.

#### **Responsibilities of the Branch Chief include:**

- implementing and overseeing OLQ's QA policy within the Branch
- acting as a conduit for QA information within the Branch
- assisting in developing of QA policies and procedures
- assisting in solving QA related problems at the lowest possible organizational level

#### **A. OLQ Voluntary Remediation Program (VRP) Section**

The Voluntary Remediation Program (VRP) was established to provide any site owner, or prospective owner a mechanism to cleanup contaminated property.

#### **Senior Environmental Manager 1 and Environmental Manager 2**

#### **The responsibilities of these positions include:**

- overseeing remediation actions and reviewing documentation of QA/QC procedures
- reviewing site characterizations



- reviewing sampling procedures and techniques

#### **B. OLQ Leaking Underground Storage Tank (LUST) Section**

The Leaking Tank Section is responsible for managing and coordinating the Office's Leaking Underground Storage Tank (LUST) program.

**Senior Environmental Manager 1, Environmental Manager 2, and Environmental Scientist 3**

**The responsibilities of these positions include:**

- overseeing corrective actions and reviewing documentation of QA/QC
- reviewing site characterizations
- investigating complaints
- reviewing sampling procedures and techniques

#### **C. OLQ Federal Cleanup, Superfund, and NRDA Section**

The Federal Cleanup, Superfund, and NRDA Section is responsible for managing and coordinating remediation at various Federal facilities and abandoned facilities that are listed on the National Priorities List (NPL), or are under the Defense Environmental Restoration Program (DERP). The Section Chief manages the activities of Environmental Managers and Environmental Scientists.

**Senior Environmental Manager, Environmental Manager 2, and Environmental Scientist 3**

**The responsibilities of these positions include:**

- overseeing remediation actions and reviewing documentation of QA/QC procedures
- reviewing site characterizations
- reviewing sampling procedures and techniques

#### **D. OLQ State Cleanup, Removals, and RCRA Section**

The State Cleanup, Removals, and RCRA Section is responsible for overseeing State-lead environmental remediation projects, immediate removal of hazardous substances, and RCRA Corrective Action activities.

**Senior Environmental Manager 1, Environmental Manager 2, and Environmental Scientist 3**

**The responsibilities of these positions include:**

- overseeing remediation actions and reviewing documentation of QA/QC procedures
- regulating corrective action measures at RCRA facilities and sites
- reviewing site characterizations
- reviewing sampling procedures and techniques

#### **E. OLQ Site Assessment, Brownfields, and Abandoned Landfill Section**

The Site Assessment, Brownfields, and Abandoned Landfill Section is responsible for conducting environmental assessments and promoting cleanup and redevelopment of priority sites through a goal-oriented approach.

**Senior Environmental Manager 1, Environmental Manager 2, Geologist 2, and Environmental Scientist 3**

**The responsibilities of these positions include:**

- performing site investigations and characterizations at areas with known or suspected contamination
- recommending removal and remediation strategies for contaminated sites
- reviewing applications for Brownfield grants and loans
- provide oversight and review of Brownfield sites receiving financial assistance

#### **(4) OLQ Compliance and Response Branch**

The OLQ Compliance and Response Branch is responsible for ensuring and promoting compliance by regulated facilities and sites, and responding to environmental emergencies. Regulatory compliance is ensured through routine inspections of industrial facilities managing hazardous and special wastes, underground storage tank sites, confined feeding operations, and solid and hazardous waste facilities.

**The Branch is responsible for ensuring compliance in the following regulatory programs:**

- RCRA Solid and Hazardous Waste
- Confined Feeding
- Industrial Waste
- PCBs
- Underground Storage Tanks (UST)

#### **A. Agricultural and Solid Waste Compliance Section**

The Agricultural and Solid Waste Compliance Section is responsible for ensuring compliance at solid waste disposal facilities and confined feeding operations.

**Senior Environmental Manager 1 and Environmental Manager 2**

**The responsibilities of these positions include:**

- routine inspections of solid waste disposal facilities and confined feeding operations
- conducting periodic compliance audits of solid waste disposal facilities
- coordination with other State, Federal, and local agencies

**B. OLQ Underground Storage Tank Section (UST)**

The Underground Storage Tanks Section is responsible for assuring that all regulated underground storage tanks meet the USEPA's and Indiana's requirements for release detection, spill and overflow prevention and corrosion protection, and to insure that tanks not meeting those requirements are properly closed or upgraded. The Section educates and assists underground storage tank owners and operators in order to encourage and promote voluntary compliance. The responsibilities of the Section Chief are similar to those of the Chemistry Section Chiefs.

**Senior Environmental Manager 1, Environmental Manager 2, and Environmental Scientist 3****The responsibilities of these positions include:**

- inspection of UST sites
- updating UST information within the ULCERS database
- collecting locational information for UST sites
- coordination with other State, Federal, and local agencies

**C. OLQ Industrial Waste Sections #1 and #2**

The Industrial Waste #1 and #2 Sections are responsible for conducting inspections of industrial facilities managing hazardous and special wastes. These Sections also perform inspections and produce reports for the EPA's PCB program.

**Senior Environmental Manager 1, Environmental Manager 2, and Environmental Scientist 3****The responsibilities of these positions include:**

- inspection of industrial facilities that generate or manage RCRA hazardous waste (including PCBs) and solid waste
- collecting locational information for industrial facilities
- coordination with other State, Federal, and local agencies

**D. OLQ Technical Compliance Section**

The Technical Compliance Section ensures compliance with technical standards in the hazardous and solid waste programs. Through its comprehensive inspection and inspection support program the Section provides technical resources that include guidance, instruction, equipment and techniques, field support, sampling, regulatory interpretation, health and safety, and research.

- inspection of RCRA hazardous waste disposal facilities
- inspection of facilities that handle PCBs
- collecting locational information for RCRA hazardous waste disposal facilities
- coordination with other State, Federal, and local agencies

## **E. OLQ Emergency Response Section**

The Emergency Response Section provides 24-hour a day response capability to document, coordinate, communicate, and assist in spill response and cleanup efforts, minimizing environmental damage and public health threats.

**Senior Environmental Manager 1, Environmental Manager 2, and Environmental Scientist 3**

**The responsibilities of these positions include:**

- determination of cleanup levels
- immediate response and/or inspection to environmental emergencies
- providing QA on contractor cleanups
- coordination with other State, Federal, and local agencies

## **(5) OLQ Permits Branch**

The OLQ Permits Branch is responsible for the issuance and handling of permits, notifications, and registrations for several types of hazardous and non-hazardous waste management activities.

**The following regulatory programs are administered through the Branch:**

- RCRA Permitting (Solid Waste and Hazardous Waste)
- Confined Feeding
- Land Application

### **OLQ Permits Branch Chief**

The Permits Branch Chief is the main point of contact and manages the activities of the Solid Waste Permit Section, the Hazardous Waste Permits Section, the Geology Section, and the Engineering Section.

**Responsibilities of the Branch Chief include:**

- developing and implementing the compliance and inspection programs for OLQ
- implementing and overseeing OLQ's QA policy within the Branch
- acting as a conduit for QA information within the Branch
- assisting in the development of QA policies and procedures
- assisting in solving QA related problems at the lowest possible organizational level
- providing policy guidance for the RISC program

## **A. OLQ Solid Waste Permits**

The Solid Waste Permits Section is responsible for reviewing permit applications and issuing permit decisions for solid waste facilities, confined feeding operations, and land application sites.

**Senior Environmental Manager 1, Environmental Manager 2, and Environmental Scientist 3****The responsibilities of these positions include:**

- review of new permit and permit modification applications
- issuing permit and authorization decisions
- coordinating permit application review with geology, engineering, chemistry, and compliance staff

**B. OLQ Hazardous Waste Permits**

The Hazardous Waste Permits Section is responsible for coordinating hazardous waste permit reviews with Region 5 EPA, and conducting hazardous waste Compliance Monitoring Evaluations in accordance with the Resource Conservation and Recovery Act grant commitments.

**Senior Environmental Manager 1, Environmental Manager 2, Geologist 2, and Environmental Scientist 3****The responsibilities of these positions include:**

- review of new permit and permit modification applications
- coordinate with appropriate EPA personnel
- issuing permit and authorization decisions
- coordinating permit application review with geology, engineering, chemistry, and compliance staff

**C. OLQ Geology Section**

The Geology Section is responsible for reviewing hydrogeological data for OLQ's RCRA Permit Programs (Solid Waste and Hazardous Waste).

**Geologist 1, Geologist 2, and Geologist 3****The responsibilities of the Geologist positions include:**

- making recommendations on monitoring networks and sampling plans to ensure proper QA is observed
- tabulating and interpreting data
- assists in sampling and performing field tests and provides oversight for soil borings and well installation
- reviews permit applications

**In addition to the above listed responsibilities, Geologist 1 staff are also responsible for:**

- reviewing the work of Geologist 2 and Geologist 3 staff
- developing SOPs and guidance documents
- providing training of Geologist 2 and Geologist 3 staff

## **D. OLQ Engineering Section**

The Engineering Section is responsible for reviewing engineering and plan data for OLQ's RCRA Permit Programs. The Section Chief manages the activities of the Environmental Engineers.

### **Environmental Engineer 1, Environmental Engineer 2, and Environmental Engineer 3**

**The responsibilities of these positions include:**

- making recommendations on facility design to ensure proper QA is observed
- tabulating and interpreting data
- assists in performing field tests and provides oversight for facility construction
- reviews permit applications

## **d. Office of Water Quality (OWQ) QA/QC Staff**

### **(1) Watershed Management Section (319)**

#### **Senior Environmental Manager Supervisor 3 and Environmental Manager 2**

The responsibilities of the positions include the review and approval of Quality Assurance Project Plans (QAPP), required of all 319 projects conducting water quality or other technical monitoring. The Environmental Manager 2 position (QA/QC Coordinator) specifically develops the QA/QC policies and procedures implemented through the QAPPs developed by the grant recipients. The QA/QC Coordinator also receives and reviews the project reports associated with 319 projects.

There is also a standard operating procedure (SOP) for the 319 Project QA/QC Coordinator to follow, as well as EPA reference documents: (EPA Requirements for Quality Assurance Project Plans, QA/R-5, Final-March 2001), and (EPA Guidance for Quality Assurance Project Plans, QA/G-5, Final-1998). The 319 Project QA/QC Coordinator also attends any related training or conference opportunities for implementing QA/QC policies and procedures.

### **(2) Water Quality Standards**

#### **Senior Environmental Manager Supervisor 3 and Senior Environmental Manager 1**

The responsibilities of the positions include the coordination and development of the 305(b) water quality assessment of State water resources. The Quality Assurance/Quality Control policies and procedures for surface water and ground water assessments are conducted by the Toxicology and Chemistry Section in the OWQ Assessment Branch. The responsibilities of the positions include the final QA/QC review of the water quality assessment of State water resources report.

### **(3) 104(b)(3) and 205(j) Grant Programs and the EMPACT Grant**

#### **Senior Environmental Manager Supervisor 3 and Environmental Manager 2**

The responsibilities of the positions include the review and approval of Quality Assurance Project Plans (QAPP), required of all 104(b)(3) and 205 (j) grant projects. The Environmental Manager 2 position (QA/QC Coordinator/Grant Project Manager) developed the QA/QC policies and procedures and maintains QA/QC review responsibilities. The QA/QC policies and procedures are implemented through the QAPPs developed by the grant recipients. The Grant Project Manager also receives and reviews associated grant project reports.

Both the 319 and the 104(b)(3) and 205(J) grant programs have standards and guidelines for the grant recipients to use when preparing Quality Assurance Project Plans. The Guidelines for Preparing QAPPS for Section 319 Nonpoint Source Projects is attached as APPENDIX M, while the Standard (Current Operation Procedure–COP) for 319 grant QAPPs is attached as APPENDIX N.

The 319 QA/QC Coordinator and the 104(b)(3) and 205(j) QA/QC Coordinator/Grant Project Manager have a checklist that is used in the review of project QAPPs, and this checklist is attached as APPENDIX O.

The Office of Water Quality's Web site contains the above materials as well as other useful information regarding the application process for the above water grants. The site is located at: [www.IN.gov/owm/planbr/wsm/index.html](http://www.IN.gov/owm/planbr/wsm/index.html).

#### (4) TMDL

##### **Senior Environmental Manager Supervisor 3 and Chemist 2**

The Assessment Branch of the Office of Water Quality is responsible for development of Total Maximum Daily Limits (TMDLs). Streams on the 303(d) List of Impaired Waters in the State of Indiana are sampled and the results are evaluated to determine if the impairment still exists. The responsibilities of the positions include the QA/QC of the surface water and ground water assessments. These assessments are conducted by the Toxicology and Chemistry Section of the OWQ Assessment Branch.

#### (5) Section 106 Grant Program

Section 106 of the Clean Water Act grant monies supports personnel that ensure the protection, preservation, and enhancement of the quality and integrity of all waters of the State of Indiana. This objective is achieved through implementation of the appropriate water quality standards; enforcement of promulgated regulatory requirements; the management of a program designated to assist in the construction, operation, and maintenance of wastewater facilities; and through inspections of all wastewater treatment facilities throughout the State of Indiana to ensure compliance with the Clean Water Act and State regulations.

The OWQ programs implemented with Section 106 monies include: Groundwater, Water Quality Standards, Rules Development, Data Management, and Operator Assistance. The National Pollutant Discharge Elimination System (NPDES) Permitting Program and Stormwater Runoff Programs are eligible for Section 106 funding, but these two programs are traditionally funded by the State of Indiana General Funds and with NPDES permitting fees collected through the implementation of the OWQ NPDES permit program.

The OWQ Groundwater and Water Quality Standards are the programs currently funded with Section 106 monies, and these programs are addressed within the QMP. The other programs funded by Section 106 dollars (Data Management, Operator Assistance, and Rules Development), do not produce environmental data as part of their work activities and are not discussed in the QMP. The IDEM NPDES Permit Program follows quality assurance and quality control procedures similar to the ones outlined for other OWQ program listed in the QMP.

## **(6) Drinking Water Branch**

The Drinking Water Branch is responsible for implementing the Federal Drinking Water Programs mandated under the Safe Drinking Water Act. In addition, there are some functions under the OWQ 104(b)(3) and 319 grants that are housed in the Ground Water Section of the Drinking Water Branch.

### **Drinking Water Branch Chief**

The Drinking Water Branch Chief is the main point of contact in the Drinking Water Branch and manages four (4) sections, the Public Water Supply Compliance Section, the Field Inspection Section, the Ground Water Section, and the Construction Permits Section.

#### **Responsibilities of the Branch Chief include:**

- implementing and overseeing the OWQ and DWB QA policies within the Branch
- disseminating QA information within the Branch
- assisting in development of QA policies and procedures
- assisting in solving QA related problems

### **Public Water Supply Compliance Section Chief**

The Public Water Supply Compliance Section Chief maintains the integrity of the data received by the Compliance Section. The Section Chief is involved in the interpretation of data as needed and provides clarification to Compliance Section staff on QA issues.

#### **Public Water Supply Compliance Section Staff (2--Senior Environmental Managers 1, 1--Environmental Manager 2, 5--Environmental Scientists 3, 1--Environmental Engineer 1, 1--Environmental Engineer 2, 1--Environmental Engineer 3)**

The Compliance Section Staff review all data received from public water systems to verify that monitoring was conducted in the proper monitoring periods and that the proper analytical methods were used. The laboratory certification program is administered by the Indiana State Department of Health as detailed in the supporting documentation provided with this plan.

### **Field Inspection Section Chief**

The Field Inspection Section Chief is responsible for maintaining the information collected by the Inspection Section staff and the Monthly Operating Reports generated by the certified operators of the water system. The Section Chief implements QA procedures within the Field Inspection Section.



**Field Inspection Section Staff (2--Senior Environmental Managers 1, 1 – Environmental Manager 2, 8--Environmental Scientists 3)**

The Field Inspection Section staff are responsible for reviewing all operations reports submitted by the certified operators of the public water systems. They are also responsible for reviewing QA procedures with the certified operators while performing sanitary surveys (use EPA's required Eight Elements of Sanitary Surveys). The field inspection staff also provide technical assistance site visits. Applicable rules: The Safe Drinking Water Act 1996 Amendments, and the State Administrative Rule 327-IAC-8-12.

Field Inspector Reports/checklists are also used by the inspectors when making inspections of public water systems. The Field Inspection Section staff are responsible for verifying the accuracy of data collected during site visits and for other special projects (i.e., collection of GPS data).

**Capacity Development/Permit Section Staff (1--Environmental Manager 2, 1 – Environmental Scientist 3)**

Staff in this Section (currently without a Section Chief) are responsible for implementation of the operator certification program. They review applications for certification examinations, grade certification examinations, and maintain the Continuing Education Units (CEU) Program. QA for these programs is performed by these staff. Other duties of this Section are not Federally funded.

**Ground Water Section Chief**

The Ground Water Section Chief is responsible for QA functions regarding information submitted by water systems or contractors for the water systems under the Wellhead Protection Program. The Section Chief is also responsible for QA of the field geology projects under 104(b)(3) and 319 grants, Source Water Assessment Program, and other special projects (i.e., collection of GPS data).

**Ground Water Section Staff**

Staff in this Section are responsible for reviewing information submitted by water systems under the Wellhead Protection Program prior to approval by the Section Chief. They also provide internal QA on data collected under the ground water programs, either by other Section staff (with ultimate approval by the Section Chief or Branch Chief) or contractors.

**e. Office of Enforcement (OE) QA/QC Staff****(1) OE Assistant Commissioner**

The Office of Enforcement is overseen/managed by an OE Assistant Commissioner who reports to the Agency Deputy Commissioner of Legal Affairs.

**(2) Sections**

The Office of Enforcement is comprised of four (4) distinct Sections that implement enforcement activities in the following areas: air, hazardous waste, solid waste, and water. These four Enforcement Sections are each managed by an **OE Section Chief**, who is responsible for implementing program enforcement activities. Each Section Chief reports directly to the Assistant Commissioner of the Office of Enforcement. The Section Chiefs also have a direct line of communication with the IDEM QA Manager regarding quality assurance issues. The Section Chiefs (or the IDEM C/E Team--referred to on page 52) may be involved in the QA/QC planning and assessment meetings coordinated by the IDEM QA Manager.

### (3) Section Chief

Each Section Chief manages the **OE Case Managers** within their particular Section. The Section Case Managers (Senior Environmental Managers 1, Environmental Managers 2, and Environmental Scientists 3) are the QA/QC staff for enforcement activities within each O/E Section. These QA/QC staff/Case Managers also have a direct line of communication with the IDEM QA Manager regarding any aspect of IDEM's Quality Management System.

### (4) OE Processes

Indiana Code (IC) 13-30-3, Investigation of Violations; Administrative Proceedings and Orders: basis for initiation of investigation, states the Commissioner or a designated member of the staff of the Department may initiate an investigation on receipt of information of an alleged violation of any of the following: 1) Environmental management laws; 2) Air pollution control laws; 3) Water pollution control laws; 4) IC 36-9-30-35; and 5) A rule or standard adopted under the following: a) environmental management laws; b) air pollution control laws; and c) water pollution control laws.

Enforcement actions are referred to the Enforcement Section Chiefs by Program Office (water, land, air, and Regional Office) compliance staff (inspectors) via a standardized program referral form. The referral form lists information relevant to the enforcement claim. The Program Offices submit a completed referral form to the Office of Enforcement, which gives the facts surrounding the referral and the basis for the referral - (contains information found during an inspection process; e.g., inspection violations, etc). The referral process ensures an enforcement action is justified, and if found to be true, then enforcement action is taken. Again, the Agency Office Programs refer violations to the Office of Enforcement for action, and O/E evaluates the referral to determine whether the Agency moves forward on the action.

The Office of Enforcement has developed a Communication Current Operating Procedure (COP) for communications between of the Office of Enforcement and persons referring enforcement cases to the Office of Enforcement. The COP is an internal guideline (not for public view) to ensure 'standardized' interactions between the O/E Case Managers and the compliance staff when the Office of Enforcement is proceeding through the case resolution process. The Communication COP is applicable to all enforcement cases, and the involvement of the referring person is an essential factor in the development and resolution of enforcement cases, which is performed by the Office of Enforcement. (The O/E Communication COP was adopted (Spring, 2001), and supercedes the SOP entitled "Communications/Interactions Between the Office of Enforcement, the Environmental Programs, and the Office of Legal Counsel", which was adopted on July 13, 1992.

The Office of Enforcement has also developed an Enforcement Referral Policy (a deliberative, work-in-progress document), which classifies environmental violations and criteria for referral of violations to the Office of Enforcement. This policy helps ensure standardized criteria are met prior to referral of violations to the Office of Enforcement.

The Multimedia Enforcement Tracking System (METs) database is used to track Agency enforcement proceedings once a decision is made to pursue enforcement. There is a METs database tracking system “User’s Manual,” and all Office of Enforcement employees are trained in the use of the METs database, and have access to the training manual. The manual, which provides definitions of terms, is a “how to” about entering enforcement information into the database, and what the information means. The METs database has provided tremendous improvement in how enforcement activities are tracked, documented, and are moved through the enforcement process more rapidly than prior to METs database tracking.

The four Enforcement Section Chiefs are ultimately responsible for managing and evaluating their staff’s performance with regard to all aspects of the enforcement work process. One specific Section Chief QA/QC duty is to review and monitor the information that is submitted into the METs database by the Case Managers or other enforcement personnel.

All Enforcement Section Chiefs have a procedure for reviewing information that has been entered into the database by the Case Managers. One QA/QC tool is to periodically review printed reports of the METs database. The review of these reports helps ensure quality entry of enforcement data, and also documents that the enforcement process and statutory requirements are met. It also provides another review of enforcement cases to ensure that enforcement actions taken are ‘appropriate’ for the violation.

Enforcement activity and Case Manager reports giving the year end totals for number and types of cases are also generated from the METs database.

Some Enforcement Sections report some of the information from the METs database to EPA Region 5 for entry into national databases that are relevant to the IDEM Enforcement Section.

The Hazardous Waste Section of the Office of Enforcement has another QA/QC check on hazardous waste METs database information by an IDEM employee in the Office of Land Quality, who is responsible for submitting the METs hazardous waste database information to EPA Region 5.

Any errors found by the Enforcement Section Chiefs (or other area QA/QC checks) in data entry or in documenting the enforcement process are brought to the appropriate Case Manager for resolution. Employees receive an annual performance appraisal and because data input is an important part of a Case Manager’s job description, the enforcement Case Managers are evaluated annually on their data input performance.

Indiana Code 13-30-4, Civil Penalties, authorizes IDEM to provide an Agency-wide policy for civil penalty assessments, and an Agency nonrule policy document has been created to provide guidance on assessment and implementing civil penalties. This document, as well as other Office of Enforcement nonrule policy documents, is available at: [www.IN.gov/ide/oe/nrp/rules.html](http://www.IN.gov/ide/oe/nrp/rules.html).

It is in the purview of the Office of Enforcement to determine the penalty amounts for actions taken. However, it is stipulated in the Communication COP for O/E Case Managers and referring persons, when calculating a civil penalty, the Case Manager should take into account input from the referring person. The referring person can provide insight that can help determine the extent of deviation and potential for harm. The Case Manager should also document that he or she sought input from the referring person regarding penalty calculations.

The Agency Civil Penalty Policy authorizes the limits within which IDEM may impose specific penalties for specific violations. The purpose of the document is to provide a policy that allows IDEM to fairly and consistently assess civil penalties within this statutory framework. In addition, the Agency has a Settlement Guidance to also ensure the Office of Enforcement assesses penalties that are consistent throughout the Agency.

#### **(5) Compliance/Enforcement Team – Compliance Planning Process**

Historically, IDEM has conducted compliance and enforcement activity planning within each of its Offices. This media-specific approach has proven to be an effective mechanism for planning and conducting those activities within each Office. However, an Agency-wide compliance and planning process could serve to enhance the planning process already in place by allowing the Agency to take a more focused look at environmental problems, holistically, and to examine the overall compliance status of individual facilities, industrial sectors, and other areas of concern.

The first step in achieving this goal was the formation of a Compliance/Enforcement Team in November 1999. This Team, co-lead by Senior Agency Managers with the participation of Mid-Level Managers from each Office, meets regularly with a prepared agenda to discuss Agency-wide compliance and enforcement issues.

The Agency-wide compliance and enforcement planning process was officially launched in the spring of 2000, and was used to identify Compliance/Enforcement priorities for the 2001-2003 EnPPA cycle.

The Compliance/Enforcement Team, along with staff from IDEM's Office of Planning and Assessment, is responsible for implementation of the C/E planning process established in the current operating procedures (COP). Implementation of this COP, coupled with IDEM's Environmental Performance Partnership Agreement with USEPA and the individual media program planning processes, will provide the C/E Team and IDEM with a mechanism for identifying and addressing compliance issues, which deserve attention by the Agency.

All policies and procedures developed by the C/E Team are available on the Agency shared drive and Intranet. Printed copies are available upon request.

Inspector cross-training and ongoing statewide use of a Multimedia Screening Checklist (attached as APPENDIX P – finalized August 28, 2000), by the majority of the Agency's inspectors, has been another focus of the C/E Team. The process also includes the tracking and follow-up of multimedia checklist referrals from one media program to another. Another function of the IDEM C/E Team has been to standardize the inspection process within and between Agency Program Offices. The C/E Team is working to refine the Agency inspection protocols and enforcement referral policies, in addition to developing the formal Agency-wide C/E planning process noted earlier.

All of these C/E Team functions were part of an Agency-wide priority called "Building a Better IDEM" within the 1999-2001 EnPPA cycle, and they remain an Agency-wide priority for the upcoming 2001-2003 cycle.

Many inspectors receive on-the-job training by going out with experienced staff, generally six (6) months before doing inspections on their own. The timeline for on-the-job training may vary depending on the knowledge, skills, and abilities of the 'inspector-trainee,' as well as the type(s) of facility(ies) being inspected. In some cases, new inspectors receive on-the-job training for up to one year before they lead inspections or conduct solo inspections. The more complex inspections such as those conducted at permitted treatment, storage, and disposal facilities, are conducted by the most experienced inspectors (e.g., Environmental Managers or Senior Environmental Managers). Besides on-the-job training, all new inspectors attend extensive classroom training as well, and all inspectors receive periodic training to learn about new regulations, guidance, or policy.

Compliance inspectors have conducted joint inspections with EPA, as well as with other IDEM Program Office staff. This past year, EPA conducted six joint inspections with IDEM compliance inspectors that served as training inspections for EPA. EPA Region 5 asked if new EPA inspectors could accompany IDEM compliance inspectors on inspections so that EPA inspectors could learn from IDEM staff. All six joint inspections have been completed.

Supervisors and working leaders within a Program Office conduct joint inspections at least one (1) time per month with inspectors to ensure quality inspections, and compliance inspectors from one Program Office also conduct joint inspections with other Program Office staff on an ongoing basis. The purpose and goal is different depending on the circumstance. The following is a list of some examples of why joint inspections are conducted:

- To provide training to new compliance inspectors. To provide on-the-job training for new inspectors for at least six months, and in some cases for up to one year
- To provide training as new regulations become effective
- To provide training to other IDEM Program staff – especially those involved in multimedia
- To allow other IDEM staff to shadow inspectors, if they want to learn more about what compliance inspectors do
- To conduct multimedia inspections
- To conduct evaluations of the inspector's performance
- To provide guidance as job duties change

Quality assurance is ensured in compliance activities by the use of current operating procedures (COPs) for inspection protocols, report writing, referrals, and communications between Offices. Program Office supervisors and working leaders also review all inspection reports to ensure accuracy and completeness before finalization and mailing. Every inspector also has a position description that describes performance criteria and every inspector is evaluated annually for those performance criteria.



# CHAPTER 2

## Quality System Components

**Purpose** – To document how IDEM manages its Quality System and defines the primary responsibilities for managing and implementing each component of the system.

### I. QUALITY ASSURANCE SYSTEM AND DESCRIPTION

IDEM has implemented a Quality System designed to ensure that environmental programs produce the type and quality of results needed and expected (i.e., all environmental data generated and processed will be scientifically valid; of known precision and accuracy, acceptable completeness, representativeness, and comparability; and legally defensible). The system is maintained in accordance with applicable State and Federal laws and rules, standards, guidance, contractual requirements, and sound management practices.

The Agency Quality System includes the organizational arrangements, documents, and processes described in this Quality Management Plan (QMP). Thus, this QMP documents the approach (policies, processes, and tools) used to assure the quality of work conducted by IDEM, as well as documenting the lines of reporting and communication, and coordination mechanisms in executing the work processes on a day to day basis. It presents the framework by which the quality assurance/quality control (QA/QC) functions are administered by the Agency and the programs covered in this Quality Management Plan (QMP). IDEM regards this QMP as a dynamic document and system of processes that will be continuously improved and updated as programmatic practices and procedures change and evolve.

### II. QUALITY ASSURANCE POLICY

To ensure that sound environmental decisions are made using data appropriate for the decision, IDEM will conduct all data collection and analysis activities (environmental data operations) according to scientific methods and techniques that have been sanctioned or approved by the scientific community and/or USEPA. (A list of specific IDEM policies regarding a Quality System and tools of implementation are found on page 7 within CHAPTER 1.)

It is the responsibility of all Managers and staff to follow this policy under the guidance of the IDEM Quality Assurance Manager (IDEM QA Manager) and Quality Management Plan Manager (QMP Manager), which is the responsibility of the Director of the Office of Planning and Assessment. To ensure a Quality System is implemented, it is the intent of the Agency for Program Managers, IDEM QA/QC staff, the QMP Manager, and the IDEM QA Manager to begin meeting, at a minimum, on a quarterly basis and begin developing an assessment process for evaluating IDEM's Quality System.

These planning meetings will begin once the Agency Quality Management Plan is submitted, reviewed, and approved by EPA Region 5.

---

## III. PRINCIPLE COMPONENTS

### A. PROGRAMS

As previously stated in CHAPTER 1, “Management and Organization,” the Quality System has been implemented for all IDEM programs listed below, and throughout this Quality Management Plan (QMP), the programs may be referenced separately under some QMP elements when applicable.

#### 1. Office of Air Quality (OAQ) Programs Covered by the Quality System

- Ambient Air Monitoring
- Emission Inventory
- Compliance Reporting
- Compliance Assurance Monitoring
- Inspection and Maintenance
- Stack Testing
- Lead-Based Paint Program (in the Asbestos/Lead Section of the Office of Air Quality)

#### 2. Office of Land Quality (OLQ) Programs and Initiatives Covered by the Quality System

- Site Assessment
- Brownfields
- Voluntary Remediation Program (VRP)
- Defense Environmental Restoration Projects (DERP)
- Natural Resources Damage Assessment (NRDA)
- RCRA Permitting (Solid and Hazardous Waste)
- RCRA Corrective Action



- Leaking Underground Storage Tanks (LUST)
- Superfund
- Underground Storage Tanks (UST)
- Great Lakes Initiative (GLI)
- Locational Data Improvement Initiative (LDI)
- PCB Grant

### **3. Office of Pollution Prevention and Technical Assistance (OPPTA) Program Covered by the Quality System**

- Pollution Prevention Incentives to States Grant for the Toxics Release Inventory (TRI)

### **4. Office of Water Quality (OWQ) Programs and Initiatives Covered by the Quality System**

- Total Maximum Daily Load (TMDL) Grant
- Nonpoint Source 319 Watershed Management Grant
- 104(b)(3)/205(j) Watershed Management/ Water Quality Grant and EMPACT Grant (Environmental Monitoring for Public Access and Community Tracking)
- Ground Water Program
- Drinking Water Program
- Water Quality Standards Program
- Section 106 Clean Water Act (CWA)

### **5. Office of Enforcement Programs Covered by the Quality System**

Some air, land, and water program enforcement activities are funded with federal dollars and are listed below as Agency programs, which adhere to the Quality System prescribed in IDEM's QMP:

- Office of Land Quality enforcement of RCRA Hazardous Waste Program
- Office of Land Quality enforcement of UST/LUST Programs
- Office of Water Quality enforcement of NPDES Permit Program

## 6. EPA Radon Grant

The EPA Radon Grant is currently awarded to and implemented through the Indiana State Board of Health. The Indiana Department of Environmental Management has, however, recently submitted an application for EPA grant funds to implement the Radon Grant Program within IDEM's Office of Air Quality. If/When the EPA grant is awarded to the Indiana Department of Environmental Management, the federally funded Radon Grant Program will be written up for inclusion in IDEM's umbrella QMP. The revised QMP will be submitted, at that time, to EPA for approval of the inclusion of the new Radon Grant Program. The revised QMP will describe the QA documentation process and reference developed policies and procedures that apply to the planning, implementation, and assessment processes of the Radon Grant Program.

IDEM's Drinking Water Branch within the Office of Water Quality will start in January, 2002 reassessing the quantity of radon in the public drinking water supply as regulated in the Safe Drinking Water Act (SDWA), as amended in 1996. The implementation of the Drinking Water Branch quality assurance/quality control standards and procedures for analysis of radon are the same standards and procedures currently used by the Drinking Water Branch for the assessment of other measurable constituents/contaminants that might be found in the public drinking water supply.

## 7. Pretreatment and Sludge Programs

IDEM is seeking delegation for the Pretreatment and Sludge Programs, which have not yet been approved by EPA. Once IDEM receives delegation for the Pretreatment and Sludge Programs, then these programs will be written up for inclusion in the IDEM's QMP. The revised QMP will be submitted, at that time, to EPA for approval of the inclusion of these programs. The revised QMP will describe the QA documentation process and reference developed policies and procedures that apply to the planning, implementation, and assessment processes of these delegated programs.

## B. ELEMENTS

As documented in this Quality Management Plan, IDEM identifies the following as elements of an effective Quality Assurance System:

- Statement of QA Goals and Policy
- Defined QA Organizational Structure
- Programs and Activities Covered by the QA Requirements
- Roles and Responsibilities of those involved with QA functions
- QA Tools and Procedures
- Resource Assessment and Accommodation
- Communications Processes (internal and external)
- Training Requirements

- Documentation and Record Keeping
- Review and Evaluation Procedures
- Methods for Continuous Improvement
- Definitions of Key QA Terms
- List of Applicable QA Requirements and Criteria (EPA Orders, Federal and State Regulations, Guidelines, Federal Acquisition Regulations, Nonrule Policy Documents, etc.)

Coordination and management of the Quality System is delegated to the IDEM QA Manager. The Quality System is largely decentralized, with each IDEM Program Office designating QA staff and implementing QA procedures in their own Offices consistent with the IDEM QMP. Program Managers and QA staff should notify the IDEM QA Manager if requirements are developed for a program that are different than stated in this QMP. Because the IDEM QA Manager is located in the Office of Planning and Assessment, this ensures the organizational independence of the IDEM QA Manager from the Agency Offices generating, compiling, and evaluating environmental data. All documents used to standardize IDEM's QA/QC processes are available from the program contact listed in APPENDIX K, the individual Program Office, or the IDEM QA Manager.

## **C. PRINCIPAL IMPLEMENTATION TOOLS AND PRACTICES**

Successful implementation of the IDEM Quality System requires a consistent and graded approach to QA practices. The QA approach will be commensurate with the intended uses of the data and degree of confidence needed in the results. A variety of tools and practices/procedures are employed for planning, implementing, and evaluating the Quality System. Managers and staff members are informed of the availability and use of these tools through the outreach efforts of the IDEM QA Manager and Agency-wide training. Some of the tools are already in use for many projects in Agency Program Offices.

### **1. Implementation Tools**

Primary QA planning and implementation tools include the Quality Management Plan (QMP); establishment of Data Quality Objectives (DQOs), Quality Assurance Project Plans (QAPPs), and Standard Operating Procedures (SOPs); Data Quality Assessment (DQA) Processes; and for Drinking Water, a Compliance Strategy.

## **a. Quality Management Plan (QMP)**

This IDEM QMP describes the policies, procedures, and systems governing the IDEM QA Program. It serves as the “umbrella” document for all IDEM QA operations, and was developed by the Office of Planning and Assessment through the efforts of the Quality Assurance Team (currently comprised of the QMP Manager, the IDEM QA Manager, and the QMP Office Program Contacts). The document was reviewed by program quality assurance staff, and finalized by an Agency-wide review. Future revisions and updates to this QMP will be prepared by the IDEM Quality Assurance Manager working with IDEM Program Office quality assurance staff.

## **b. Data Quality Objectives(DQOs)**

IDEM is committed to sound science and strives to generate environmental data that are technically and legally defensible, and of adequate quality to support decisions. To achieve this, it is recommended that Data Quality Objectives be developed in the planning phase of environmental data operations.

Data Quality Objectives are qualitative and quantitative statements, developed using the Data Quality Objective (DQO) Process, that clarify study objectives, define the appropriate type of data, and specify tolerable levels of potential decision errors that will be used as the basis for establishing the quality and quantity of data needed to support decisions.

The Data Quality Objective (DQO) Process is recommended as a systematic tool when planning, developing, and writing Quality Assurance Project Plans. “EPA Guidance for the Data Quality Objectives Process” (QA/G-4, Final--August 2000) is available for use in the development of Data Quality Objectives. The final outcome of the DQO Process is a design for collecting data (e.g., the number of samples to collect, and when, where, and how to collect samples), together with limits on the probabilities of making decision errors.

Each IDEM Program Office is responsible for establishing DQOs when applicable to its program projects. The Program Office Quality Assurance Manager/Coordinator will provide technical assistance as warranted in determining the appropriateness of the DQOs relative to the intended purpose and use of the data.

As stated in one of the responsibilities listed on page 9 of this document, it is the IDEM QA Manager’s responsibility to review a certain percentage of Program QAPPs to assure consistency in formatting, completeness, reasonableness, and that they contain the required signatures. The IDEM QA Manager will also ensure that Program Offices are establishing and using DQOs, when appropriate, in planning environmental data operations. The IDEM QA Manager will perform these reviews as part of the annual QMP review process, or when a specific Program Office makes such a review request. The IDEM QA Manager will also track approved program Quality Assurance Project Plans.

## **c. Quality Assurance Project Plans (QAPPs)**

The Quality Assurance Project Plan (QAPP) presents the policies and procedures, organization objectives, quality assurance requirements, and quality control activities designed to achieve the type and quality of environmental data necessary to support project objectives and decisions.

It is IDEM policy that Quality Assurance Project Plans (QAPPs) will be developed as project planning documents for all major environmental data operations. To ensure that data quality issues are addressed when planning environmental data operations, no major environmental data collection or analysis work addressed in the QAPP shall be started until the QAPP has been appropriately reviewed, approved, and distributed to project personnel (except in situations requiring immediate action to protect human health and the environment, or operations conducted under police powers). It is also recommended, when applicable, that the Data Quality Objective (DQO) Process (or some other acceptable systematic planning process) be used in planning, developing, and writing Quality Assurance Project Plans.

The QAPP shall be composed of standardized, recognizable elements covering the entire project from planning, through implementation, to assessment. The project elements cover four general groups of information required in the Quality Assurance Project Plan which include: Project Management, Data Generation and Acquisition, Assessment and Oversight, and Data Validation and Usability.

A description and the intent of each required element is contained in the document, "EPA Requirements for Quality Assurance Project Plans" (QA/R-5, Final-March 2001). Another document, "EPA Guidance for Quality Assurance Project Plans" (QA-G-5, Final-February 1998), is available as a guide for QAPP planning and development. Both of these documents are used in the preparation of many Agency QAPPs. Each QAPP must also use a document control format that provides its version number and effective date.

The level of detail in each QAPP will vary according to the nature of the work being performed and the intended use of the data. The Program Office Quality Assurance Managers/Coordinators are responsible for setting policy on format and extent of detail necessary in each QAPP element.

QAPPs will be developed and revised by assigned program staff who have the expertise appropriate for the subject of the QAPP. QAPPs will be reviewed by personnel designated by the originating Office. All personnel conducting reviews must have a working knowledge of the Program Data Quality Objectives, and training in QAPP review (See CHAPTER 3, "Personal Qualifications and Training"). QAPPs are not reviewed as stand alone documents. Rather, QAPPs, in addition to review by QA staff, are also reviewed in the context of the broader project objectives for current and future investigations, and when applicable, will be reviewed by a team of subject area experts who will provide specific project recommendations. This information, used in conjunction with the quality assurance review by Program QA staff, allows the Project Manager to assign approval status to the QAPP. The Project Manager is responsible for ensuring that all QAPPs receive a quality assurance review and have all required approval signatures. Staff chosen to implement the QAPP will receive an approved copy, and implementation of each QAPP will be evaluated by the respective IDEM Office Program Managers.

Copies of program/project QAPPs will also be distributed to appropriate signators, and the IDEM QA Manager will also track all Agency QAPPs.

It is the overall responsibility of the Program/Project Manager to ensure that IDEM and non-IDEM contracted field staff are properly implementing the developed QAPPs. The Program/Project Manager is also responsible for ensuring that the implemented processes defined in the QAPPs are adequately supplying environmental data that is of the required quality needed for its intended use.

The IDEM QA Manager will also provide Agency oversight in the use of Program Office or externally developed QAPPs by coordinating Audits, Management System Reviews, and other assessment processes to review and evaluate the use/implementation of QAPPs, and whether the QAPPs are effectively attaining the required quality environmental data or the defined milestones for which they were developed.

The program specific processes for writing, reviewing, and approving QAPPs are described later in this QMP (some discussion appears later in this chapter, and also see CHAPTER 7 and CHAPTER 8 specifically. Also see Table 5: Office QAPP Required Approval Signatures on page 134.

#### **d. Standard Operating Procedures (SOPs)**

The use of Standard Operating Procedures (SOPs) in IDEM serves as one mechanism to ensure comparability across programs and individual environmental data collection projects. SOPs must be incorporated either in full or by reference into the QAPP. IDEM SOP lists will be maintained by the Office/Program QA Manager and other designated Office contacts requiring SOP listings.

SOPs detail the work processes that are conducted or followed within an organization. The SOPs document the way activities are to be performed to facilitate consistent conformance to technical and Quality System requirements and to support data quality. SOPs describe both technical and administration operational elements of an organization. SOPs are intended to be specific to the organization or facility whose activities are described and assist the organization to maintain its quality control and quality assurance processes, which ensure compliance with governmental regulations. "EPA Guidance for Preparing Standard Operating Procedures" (EPA QA/G-6, Final-- March 2001) is available to IDEM Managers and QA/QC staff for guidance in the preparation and use of writing standard operating procedures.

The best written SOPs will fail if not followed. Therefore, the use of SOPs needs to be reviewed and re-enforced by management, preferably the direct supervisor. Current copies of SOPs also need to be readily accessible for reference in the work areas of those individuals actually performing the activity (both in-house and field staff), either in hard copy or electronic format.

SOPs need to remain current, therefore, whenever procedures are changed (e.g., changes in technology methodology or process, changes in compounds being monitored or regulated, or in the allowable concentration levels, etc.). SOPs should be updated, re-reviewed, and re-approved. Changes or modifications may be made to only the pertinent section of an SOP, but the process must indicate the changed date and/or revision number for that section in the Table of Contents, in the document control notation, as well as within the text of the document.

To ensure that policies and procedures remain current and appropriate, SOPs should be systematically reviewed on a periodic basis. The review date must be added to each SOP that has been reviewed. If an SOP describes a process that is no longer followed, it should be withdrawn from the current file and archived following the Agency document retention policy described in CHAPTER 5, "Document Retention".

It is the responsibility of the Office/Program Managers to ensure that their applicable policies and procedures are current, and available for use by the program staff to implement environmental data operations. Review of policies and procedures (SOPs) should be a part of the annual review/planning process that currently takes place within the Program Offices of the Agency.



## e. Data Quality Assessment (DQA)

Data Quality Assessment (DQA) is the scientific and statistical evaluation of data to determine if data obtained from environmental data operations are of the right type, quality, and quantity to support their intended use.

The data life cycle is comprised of the same three steps required for implementing a Quality System: planning, implementing, and assessment. In the planning phase, DQO's or some other systematic planning procedure are used to define quantitative and qualitative criteria for determining when, where, and how many samples (measurements) to collect and the desired level of confidence. This information, along with the sampling methods, analytical procedures, and appropriate QA/QC procedures are documented in the QAPP. Data are then collected following the QAPP specifications, and Data Quality Assessment completes the data life cycle by providing the assessment needed to determine if the planning objectives were achieved.

In the assessment phase, the data are validated and verified to ensure that the sampling and analysis protocols specified in the QAPP were followed and that the measurement systems were performed in accordance with criteria specified in the QAPP. DQA then proceeds using the validated data set to determine if the quality of the data is satisfactory.

The five (5) step process of DQA is detailed in EPA's "Guidance on Data Quality Assessment, Practical Methods for Data Analysis" (EPA QA/G-9, Final-July 2000), which demonstrates how to use DQA in evaluating environmental data sets, and illustrates how to apply some graphical and statistical tools for performing DQA. The five steps include: 1) Review the Data Quality Objectives (DQOs) and Sampling Design, 2) Conduct a Preliminary Data Review, 3) Select the Statistical Test, 4) Verify the Assumptions of the Statistical Test, and 5) Draw Conclusions from the Data. The five steps are presented in the guidance as a linear sequence, but the DQA is by its very nature iterative.

Another EPA guidance document relevant to the DQA process is "Data Quality Assessment Statistical Toolbox - DataQUEST" (EPA QA/G-9D, Final-December, 1997).

DQAs can be performed on all or selected projects involving data collection, again, with the purpose of this type of evaluation being to determine whether the data collected are acceptable to the decision-maker/user for their intended use.

CHAPTER 7, "Planning" and CHAPTER 9, "Assessment/Review" discuss the use of the data quality assessment process in IDEM's Offices of Air, Land, Water, and OPPTA. Because planning, implementation, and assessment processes are ongoing within the Agency Offices, the exact timeline for data quality assessment is determined by the program/project data life cycle.

IDEM's DQA process will be more fully evaluated when the process for assessing IDEM's Quality System is developed and implemented over the next few months to years.

## f. Office of Water Quality Drinking Water Compliance Strategy & Ground Water Manual

The Public Water Supply Systems Compliance and Enforcement Strategy, Federal Fiscal Year (FFY) 2001 provides information on the quality assurance activities of the Drinking Water Branch. This document relates how the Drinking Water Branch complies with EPA drinking water requirements, such as implementation of federal rules and other issues pertaining to the maintenance of primary enforcement authority (primacy) for the drinking water program.

**The compliance strategy includes the following:**

- Program organization
- Program activities and requirements
- Rulemaking process
- Flow of information
- Compliance determination and evaluation
- Rule implementation
- Enforcement evaluations and process

IDEM's Drinking Water Compliance Strategy was reviewed recently (March, 2001) by EPA Region 5 to ensure that it contained all of the required QMP elements. No additional information was requested to be included in the QMP regarding IDEM's Drinking Water Program.

**Ground Water Section:**

- The Monitoring Well Network Field Manual, May 1997, outlines the correct sampling collection methods for staff and contractors collecting ground water samples.
- The Current Operating Procedure (COP) for the Private Well Complaint Response Program outlines the proper steps to follow when responding to complaints involving concerns with ground water quality in private wells.

## **2. Specific Program Implementation Practices**

### **a. Office of Air Quality (OAQ) QA Procedures**

#### **(1) QAPPs for the OAQ Air Monitoring Branch**

The major compilation of program specific guidance for the Office of Air Quality Air Monitoring Branch, in the form of SOPs, is given by the "IDEM OAQ Quality Assurance Manual." This document organizes air monitoring and quality assurance SOPs from numerous QAPPs into a comprehensive monitoring guide. While it is under constant revision as new projects are added or new Federal monitoring guidance is received, basic elements of the QAPPs are incorporated into the manual including:

- Project Management – data quality objectives, project overview, and management approval (while operational functions are defined, the organizational structure required for the QAPPs is left out)
- Measurement/Data Acquisition – detailed aspects of sampling and analytical methods, instrument operation, quality control, and data management are included
- Assessment/Oversight – quality assurance operations and status reports to monitoring operators, management, and EPA are covered



- Data Validation and Usability – data is validated based on procedures and criteria set by Federal QA guidelines and guidelines set forth in the IDEM OAQ QA Manual. Documentation is completed and retained for chain-of-custody verification

Other Branches within OAQ do not produce QAPPs, but have independent SOPs to cover environmental data operations.

## (2) Other OAQ SOPs

(many more OAQ SOPs are listed in CHAPTER 1 on page 26 and in APPENDIX J )

The need for an SOP is determined by either an OAQ Branch Chief or Section Chief. SOPs are generally developed by a single staff member or small group of staff members from a specific Section. Once developed, affected staff from other Office Sections review the procedures and the Section Chiefs approve the SOP for distribution to staff or stakeholders. A periodic review of SOPs is done to ensure the procedures are up-to-date. This is usually annually for internal SOPs and every two years for SOPs in the “OAQ QA Manual.” A listing of OAQ SOPs will be maintained by the OAQ Program Mangers and a list will also be sent to the IDEM QA Manager.

## (3) Additional OAQ Processes and Practices

To ensure that data is of the necessary quality, all external sources producing air quality monitoring data must prepare a Monitoring/QA Plan. The plan contains all the elements of a QAPP and is submitted prior to commencement of monitoring or analysis. The plans are reviewed for applicability and completeness based on monitoring and QA requirements of the IDEM OAQ Quality Assurance Manual, the Code of Federal Regulations (CFR), and Federal guidance documents and approved by the Air Monitoring Branch Quality Assurance Section Chief.

### **Specific Quality System Component of the Office of Air Quality Lead-Based Paint Program:**

IDEM’s Lead-Based Paint Program ensures appropriate quality of lead measurements performed by lead professionals and training programs.

### **The following comprises IDEM’s required Quality System description:**

- Training Course Provider Programs: Effective as of February 1999, IDEM, through legislative authority and rules, was given authority to approve lead-based paint training course providers. Minimum standards were established for each course, as well as instructor requirements, record keeping, and examination requirements. On-site audits, by IDEM staff, are required for full training course approval.
- Licensing of Lead-Based Paint Personnel – IDEM has received authority and through rules requires appropriate training, educational/employment experience requirements, and third-party examinations for the licensure of lead-based paint personnel. In addition, IDEM requires annual refresher training and application for licensure.
- Enforcement/Compliance Activities – Indiana statute and rules require compliance with all lead-based paint work practice standards, including notification and record keeping requirements. Enforcement and compliance actions are taken against individuals who do not follow the required methodologies as outlined within the rules when conducting lead-based paint activities.

- Reporting and Record Review – IDEM enforcement and compliance staff have the capability to conduct record review of all lead-based paint activities, including but not limited to: inspections and risk assessments, abatement project records, and training course provider records.
- Use of NLLAP Laboratories – IDEM requires that licensed personnel use laboratories approved by the National Lead Laboratory Accreditation Program (NLLAP), recognized by the USEPA. All samples taken for compliance/enforcement activities will be analyzed thorough an NLLAP laboratory. (A copy of the NLLAP contract is on file in the OAQ Asbestos/Lead Section).
- Policy Manual – IDEM maintains rigorous guidelines for the development and issuance of Agency and program policies. All policies pertaining to the Lead-Based Paint Program are developed and consistent with IDEM’s policy guidelines, and overseen by the Section Chief.

One particular quality assurance aspect of the Lead-Based Paint Program involves a process for enforcing violations of lead program statutes or rules, and/or denial or revocation of a lead program license. Pursuant to both the Indiana Code, IC 13-17-14-11, and the Indiana Administrative Code, 326 IAC 23-2-7, the Commissioner may under IC 4-21.5 (the Administrative Orders and Procedures Act-AOPA) reprimand, suspend, or revoke the license of a lead-based paint activities inspector, risk assessor, project designer, supervisor, worker, or contractor for several reasons that are stipulated in the Indiana Code and Administrative Rule.

There is, however, a process for the ‘licensee’ to challenge such a decision of denial or revocation, and this process is stipulated in Indiana Code, IC 4-21.5-3-7 and requires that a written petition for administrative review be filed. The petition must be submitted to the Indiana Office of Environmental Adjudication (an office which is autonomous from the Indiana Department of Environmental Management), and pursuant to Indiana Code, IC 4-21.5-3-7(a) (3) a petition for review must be filed within eighteen (18) days of the mailing of the denial/revocation notice. The petition must include several pieces of information/facts, which are stipulated in IC 13-15-6-2 to be part of the licensee’s request for review.

The final step in the process for challenging a denial/revocation decision by IDEM, lies with the Office of Environmental Adjudication. Pursuant to IC 4-21.5-3-5 (d), the Office of Environmental Adjudication will provide the licensee with notice of any prehearing conferences, preliminary hearing, hearings, stays, or orders disposing of the review of this decision if a written request is submitted to the Office of Environmental Adjudication to the appropriate mailing address, as noted in the statute. Questions regarding any petitions should be asked of the Office of Environmental Adjudication. This office will also notify all parties of the decision made regarding the denial/revocation petition process.

## **b. Overview of Office of Land Quality QA Procedures**

### **(1) Quality Assurance Project Plans (QAPPs)**

The Office of Land Quality Branches and Sections utilize several different quality assurance mechanisms including QAPPs and rule requirements, SOPs (APPENDIX H), nonrule policy documents, and guidance documents (APPENDIX G) to ensure consistency and quality in environmental data operations.

## **(2) OLQ SOPs**

SOPs are developed by workgroups composed of representatives from each of the Programs or Sections that will be affected by the SOP. OLQ Branch Chiefs determine the need for a SOP and which Programs or Sections will be affected. Section Chiefs from the affected Programs nominate representatives to serve on the workgroup. The completed SOP is given to the Land Advisory Group (LAG), a group of Managers and senior-level technical staff who have final approval authority over the SOP. Once approved, the SOP is made available to all Office personnel via the Office shared drive and (eventually) the Office Intranet, once it is completed. A listing of all OLQ SOPs will be maintained by the specific Program/Branch QA Manager.

## **(3) Permitting and Compliance**

The quality assurance objectives and processes for permit review and permit decisions are described in IDEM's Office of Solid and Hazardous Waste Management, June 1995, Organization and Management Improvement Plan for the Hazardous Waste Permitting Program. The plan describes the permitting process and roles for OLQ's permit program. Although the plan was not specifically written as a QAPP, basic elements of the QAPPs are incorporated into the plan including:

- Project Management – data quality objectives, project overview, and management approval
- Measurement/Data Acquisition – references to OLQ and EPA guidance for sampling and analytical methods, instrument operation, quality control, and data management are included
- Assessment/Oversight – quality assurance operations and personnel roles are covered
- Data Validation and Usability – data is validated based on procedures and criteria set by Federal QA guidelines and guidelines set forth in OLQ guidance documents and laws. Documentation is completed and retained for chain-of-custody verification

In the Office of Land Quality, quality assurance systems for ensuring complete, consistent, and defensible permitting activity include:

- Current operating procedures
- Team approach to application review (each permit has a team involved in the review and all permits essentially receive the same level of review).
- Regular communication among permit team members
- RCRA Advisory Group oversight of policy and procedures
- Technical review oversight
- Management review at the Section and Branch levels
- Review and sign-off of Hazardous Waste Operating Permits by OLQ's Assistant Commissioner

The use of Current Operation Procedures is a standard and uniformly used system, which utilizes written policy to define all major processes. The “team approach” to review ties in with “technical review oversight.” These approaches utilize multiple reviews with different areas of professional expertise. For example, a team might consist of an Environmental Scientist, an Environmental Engineer, a Geologist, and a Chemist. Regular communication consists of verbal communication (speaking), telecommunications (such as a telephone device of either fixed or mobile variety), and other high-speed communication tools, such as computer-based e-mail.

The RCRA Advisory Committee (RAG) consists of Managers from throughout the Agency that manage RCRA-related programs. The group is a policy body and meets monthly to discuss RCRA issues, task-out special assignments, review policy, and they normally become involved in permit issuance. The main purpose of the RAG is to ensure consistent interpretation of statutes, rules, and guidance. Management review at the Section and Branch level means review by the Section or Branch Chief, and the management review ensures that permits contain the required elements.

#### **(4) Regulatory Program/Grant-specific QA Procedures**

##### **A. Site Assessment/Brownfields/VRP/RCRA Corrective Action/Superfund/ NRDA/DERP:**

OLQ activities in these program areas are carried out in accordance with EPA QA/QC guidance (e.g. Data Quality Objective Process; Guidance for Data Quality Assessments, Contract Laboratory Program Functional Guidelines, and Guidance on Environmental Verification and Validation). Adherence to EPA policies is ensured through management oversight, EPA led or approved training, and the development of SOPs (see APPENDIX H).

All site investigation and/or remediation projects are required to have an IDEM, EPA, or Department of Defense (DOD) approved QAPP prior to the onset of any activities. The Agency who has the ‘lead’ on the project will be the Agency that will generate the QAPP. If IDEM is the State lead, then the QAPP must be approved by USEPA Region 5.

Superfund/NRDA/DERP Programs develop site specific QAPPs based on the EPA Region 5 Model QAPP (latest version) in conjunction with the EPA Region 5 QAPP Instructional Document (June 2000).

Site Assessment/Brownfields/VRP Programs utilize program specific QAPPs developed by the specific program based on EPA QAPP guidance documents (CERCLA Quality Assurance Project Plan (September 1997) and the VRP Resource Guide - Appendix B: Quality Assurance Project Plan (July 1996), and subsequently approved by the EPA QA/Division Officer.

The RCRA Corrective Action Program requires QAPP development to be consistent with EPA Guidance for Quality Assurance Project Plans (February 1998), Chapter One of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (SW-846, Third Edition, as amended by Update I, July 1992), and Guidance for the Data Quality Objectives (August 2000).

QAPPs for site investigation and/or remediation programs are prepared by the potentially responsible party, the IDEM Project Manager, the IDEM external contractor (Project Manager), EPA, or DOD, depending on the site lead for the project.

##### **B. Great Lakes Initiative (GLI) Grant**

OLQ’s GLI activities have focused on:

1. purchasing equipment for environmental data collection and analysis
2. contracting with research organizations to develop GIS datasets
3. sponsoring research on the environmental quality of the Lake Michigan basin

**Procurement**

All equipment and contract activities involve purchasing equipment or services and as such are conducted in accordance with Agency procurement requirements (see CHAPTER 4, "Procurement of Items and Services" under "I. PROCUREMENT PROCEDURE").

**Data Quality**

GLI-sponsored projects that involve data collection are required to develop QAPPs. The QAPP or QAPP elements must be submitted as part of the project proposal and must include information on:

- Project Management
- Measurement/Data Acquisition
- Assessment/Oversight
- Final Review/Quality Assurance Procedures

All GLI project proposals are reviewed by Applied Science Technologies staff and/or the OLQ Data Coordinator prior to acceptance. In addition to the above requirements, the following types of data must meet additional requirements:

- Analytical data must be collected and analyzed in accordance with Guidance to the Performance and Presentation of Analytical Chemistry (OLQ Document 46, IDEM Office of Land Quality, January 1999) or an IDEM-approved Federal standard
- Locational data must be collected and formatted in accordance with the IDEM Locational Data Standard (IDEM OLQ, July 2000)
- Research results must be published in a peer-reviewed publication upon project completion

All data collected for a GLI-sponsored project are reviewed for adequacy by the OLQ staff overseeing the project. If the data are not adequate, payment to the contractor is withheld until the data meets the objectives of the project.

**(5) Solid Waste Programs**

The primary elements of a QAPP are incorporated into the governing law for the solid waste program, 329 IAC 10 (Solid Waste Land Disposal Facilities, 329 IAC 10, Solid Waste Management Board, April, 1996) including:

- Project Management – The law provides guidance regarding the sampling objectives
- Measurement/Data Acquisition – The law provides specific guidance regarding laboratory methods and documentation
- Assessment/Oversight – Specific guidelines are provided in the law (329 IAC 10) to improve consistency regarding site characterization, impact assessment, corrective action, and closure activities

In addition, IDEM staff review reports to ensure that they are consistent with the guidelines and address site specific issues.

#### **(6) Hazardous Waste Programs**

The primary elements of a QAPP are incorporated into the governing law for the hazardous waste program, 329 IAC 3.1 (Hazardous Waste Management Permit Program and Related Hazardous Waste Management 329 IAC 3.1, Solid Waste Management Board, January 1992), which incorporates EPA regulations and requirements by reference. QAPP elements covered under the law include:

- Project Management – The law provides guidance regarding the sampling objectives
- Measurement/Data Acquisition – The law provides specific guidance regarding laboratory methods and documentation
- Assessment/Oversight – Specific guidelines are provided in the law (329 IAC 3.1) to improve consistency regarding site characterization, impact assessment, corrective action, and closure activities

#### **(7) Locational Data Initiative (LDI) Grant**

Locational data must be collected and formatted in accordance with the IDEM Locational Data Standard (IDEM OLQ, July 2000) and the EPA Final Latitude/Longitude Data Standard (Method Accuracy Description (MAD), Version 6.1, Information Coding Standards for the USEPA Locational Data Policy, November 1994).

#### **(8) Leaking Underground Storage Tank (LUST) Program**

The QAPP is incorporated into the “Underground Storage Tank Branch Guidance Manual” (IDEM OLQ, October 1994). Site specific QAPPs are not developed. The primary elements of a QAPP are incorporated into the manual including:

- Project Management – The manual provides guidance regarding the sampling objectives
- Measurement/Data Acquisition – The manual provides specific guidance regarding laboratory methods and documentation
- Assessment/Oversight – Specific guidelines are provided in the law (329 IAC 9), as well as the manual to improve consistency regarding site characterization, corrective action, and closure activities. In addition, IDEM staff review reports to ensure that they are consistent with the guidelines and address site specific issues
- Data Validation and Usability – IDEM staff review the reports to ensure that data validity and usability are consistent with the manual



## (9) PCB Grant

A **draft** polychlorinated biphenyl's (PCB) QAPP was prepared by OLQ based on IDEM staff and EPA quality assurance management staff requirements and submitted to EPA in November of 2000. Once EPA comments have been received and addressed by IDEM and final EPA approval given, the OLQ PCB QAPP will serve as a tool to be used for conducting PCB inspections. The OLQ PCB QAPP is limited to the collection of wipes and soil samples to undergo laboratory analysis for PCBs. The OLQ PCB QAPP is not a stand-alone document, but rather will be used in conjunction with the OLQ laboratory contract together with the appropriate IDEM Project Coordinator and QA Coordinator project objectives.

In the interim, OLQ's PCB activities are conducted in accordance with the training procedures and guidance documents provided by EPA Toxics Program Section, Region 5, on PCB Inspections. OLQ's activities are also conducted in accordance with EPA PCB Inspection Manual (November 1992) and Guidance for TSCA PCB Inspection QAPP (September 1999).

The PCB contract laboratory is contracted through the IDEM standardized contract process under the current Broad Agency Announcement (BAA). Sima International, located in Indianapolis and Merrillville, is the contract laboratory for the PCB samples as recommended and approved by EPA. OLQ's Science Services Branch - Chemistry Services Section is responsible for the PCB laboratory contract and QA/QC analysis. OLQ's Compliance Branch has the overall QA responsibility for the PCB inspections (specific individuals and their functions are identified in Chart 4). The QA responsibilities for the PCB QAPP will be formally defined and approved in the final OLQ PCB QAPP.

## (10) Underground Storage Tank (UST) Program

The primary elements of a QAPP are incorporated into the governing law for the UST Program, 329 IAC 9 (Underground Storage Tanks, 329 IAC 9, Solid Waste Management Board, August 1999) including:

- Project Management – data quality objectives, project overview, and management approval
- Measurement/Data Acquisition – references to OLQ and EPA guidance for sampling and analytical methods, instrument operation, quality control, and data management are included
- Assessment/Oversight – quality assurance operations and personnel roles are covered
- Data Validation and Usability – data is validated based on procedures and criteria set by Federal QA guidelines and guidelines set forth in OLQ guidance documents and laws. Documentation is completed and retained for chain-of-custody verification

In addition, IDEM staff review reports to ensure that they are consistent with the guidelines and address site specific issues.

## **(11) Additional Office of Land Quality Tools and Practices**

In addition to the QA tools mentioned above, all entities (both IDEM and external) conducting monitoring or site assessment data collection are required to have the following IDEM-approved plans prior to data collection (descriptions of the plan functions and requirements are listed in CHAPTER 5, "Documentation and Records"):

- Monitoring Plan
- Sampling and Analysis Plan (SAP)
- OLQ Quality Assurance Project Plans for Laboratory Analysis (QAPjP)

In addition, waste disposal facilities whose monitoring plans involve statistical analysis are required to have an IDEM-approved Statistical Evaluation Plan (StEP) prior to performing statistical analysis. StEP requirements and guidance is provided in 329 IAC 10-21-6, "Statistical Evaluation Requirements and Procedures" (Indiana Administrative Code, 1996, 329 IAC 10-21-6), and OLQ Nonrule Policy Document #0041, "Guidance for Statistical Evaluation Plan Preparation and Review" (OLQ Nonrule Policy Document #0041, 1997, see APPENDIX D).

### **A. OLQ Sampling and Monitoring Data Review**

The OLQ Chemistry Services Sections review data collected during environmental sampling or monitoring activities. The chemistry review process is designed to:

- Determine the adequacy of the sampling techniques utilized to collect the data
- Ensure that proper sample care was applied
- Ensure the proper laboratory procedures were followed during the analysis
- Check the analytical methods used for analysis to ensure compliance with SW-846 or the project-specific Contract Laboratory Procedures (CLP)

The Chemistry Sections maintain the consistency and quality of reviews through peer review and training within the Sections.

### **B. OLQ Inspections and Fieldwork**

Most of the technical positions in OLQ such as Project Manager, Geologist, Chemist, Engineer, and Inspector have a component of fieldwork in their job duties. To help ensure consistency and quality inspections, OLQ has developed or adopted standardized inspection forms to help guide the inspection process.



**Table 3: Partial List of Forms Used by OLQ Field Personnel**

Form Name	State Form Number
Report of Open Dump Inspection	42033
Restricted Waste Type III and Construction/Demolition Inspection Report	48275
Report and Comments of Agricultural and Solid Waste Compliance	47272
Solid Waste Processing Facility and Transfer Station Inspection Report	48276
Restricted Waste Type I and Type II Inspection Report	48277
Municipal Solid Waste Inspection Report	34505
Data Sheet for Wastewater Quality Vehicles	32280
Industrial/Hazardous Waste Inspection Report	n/a
Underground Storage Tank Compliance Inspection	49216
Monitoring Well Inspection Form	n/a
CME Inspection Checklist	n/a
O and M Sampling Inspection Checklist	n/a
Sampling Inspection Checklist	n/a

Note: Forms without a State Form Number have not been officially sanctioned by the Indiana Commission on Public Records.

Compliance inspectors also utilize guidance and training specific to their program area (e.g.: 1) US Environmental Protection Agency, November 1992, 'PCB Inspection Manual;' 2) US Environmental Protection Agency, September 1999, Guidance for 'TSCA PCB Inspection QAPP;' 3) US Environmental Protection Agency, January and February 2000, 'EPA Region 5 PCB Inspection Training;' 4) IDEM, April 2000, Sampling Procedures: Wipe Test Method for PCBs and Soil Sample Text Method for PCBs, as adopted from EPA Region 5 PCB Inspection Training and documented in the OLQ draft PCB QAPP on pages 24 - 26; and 5) US Environmental Protection Agency, October 1994, 'Comprehensive Monitoring Evaluation (CME) Inspection Training Guide' (CD).

### C. OLQ Data Analysis and Assessment

The process for reviewing and assessing environmental data submitted to any of the OLQ programs is similar across the Office. The Permit Manager (Permits Branch) or Project Manager (Remediation Services Branch) receives all data submitted as part of an OLQ project or permit. The Manager determines the types of reviews needed for the submitted data and routes the data to the appropriate technical staff for review. Monitoring and sampling data are reviewed for technical adequacy by the OLQ Chemistry Services Section prior to being used in any regulatory decision-making process. Site assessment and hydrogeologic data are reviewed by staff from one of the OLQ Geology Sections, Science Services Branch Geological Services, or Permits Branch Geology. Data associated with engineering or construction activities are reviewed by staff from the Permits Branch Engineering Section or engineers from the Science Services Branch Applied Science Technologies Section. OLQ reserves the right to reject and require resampling and/or resubmittal of any data that does not pass QA/QC and technical reviews by OLQ technical staff.

#### **D. OLQ Peer Review**

As part of the data review process, each of the OLQ Technical Sections uses a peer review system for ensuring consistency and quality between reviews. Technical staff at the 2 staffing level (Chemist 2, Geologist 2, etc.) or lower perform the data review. The 2 and lower technical staffers often consult with each other and with senior level technical staff within the Section during the review. Each Technical Section has at least one senior-level technical staff person (1 staffing level) who is available for technical consultation and who provides a final technical review on all documents generated by the Section. Additional senior-level technical staff (E7 staffing level) at the Branch level ensure that technical reviews between Sections are consistent and adequate for OLQ needs. Senior-level technical staff are also responsible for compiling and writing guidance for use within the Section, Branch or Office (see APPENDIX E for lists of references used by OLQ Technical Sections). Once approved, the results of the technical review are sent to the Permit or Project Manager for further action. The submitted data and the resulting technical recommendations are filed in IDEM's Central File Room for archiving and public access.

#### **E. Locational Data Quality**

Most of the OLQ program areas are actively collecting locational information about the facilities and sites that they regulate.

To ensure the quality and usability of this data, OLQ has developed several tools:

1. the OLQ Locational Data Standard
2. a standardized Global Positioning System (GPS) training program (see CHAPTER 3, "Training")
3. in-house expertise for peer review of locational data

The OLQ Locational Data Standard (IDEM OLQ Locational Data Standard, July 2000 draft) specifies the elements and formats required for all locational data collected by OLQ staff, OLQ contractors, and OLQ regulated facilities and sites. The OLQ standard is based upon the EPA Locational Data Standard and makes full use of EPA Method, Accuracy, and Description (MAD) codes.

#### **F. Data Management**

Data regarding monitoring, compliance, and locations of environmental interest are added to the Agency's database systems. Ground water, surface water, leachate, soil, and sediment sampling data are stored in the OLQ Sampling Database. Data quality is enforced by restricting data entry to programmed forms that limit the possibility of incorrect information being entered into the database and through training of personnel in the use of the database (OLQ, 1999, OLQ Sampling Database Training Manual).

Compliance and general facility information is entered into either the Indiana RCRA Activity Tracking System (IRATS), Solid Waste Information Management System (SWIMS), or the Underground Storage Tank (UST), Leaking Underground Storage Tank (LUST), Community Right-To-Know (CRTK), and Emergency Response System (ULCERS). Data quality is controlled in these systems by limiting the types and values of information that can be entered and internal system checks that verify data as it is entered.

All OLQ data systems have designated database administrators who work in OLQ to ensure quick response to programmatic needs. Locational data, including Computer Aided Design (CAD) files and GPS data, are reviewed by qualified OLQ personnel and attributed with Federal Geographic Data Committee (FGDC) compliant metadata prior to inclusion in the Agency data systems.

#### **G. OLQ LUST Enforcement:**

IDEM has the authority, infrastructure, and staffing necessary to implement effective enforcement for the LUST program. IDEM has the following authority regarding enforcement proceedings at LUST sites:

- IC 13-30-3 - Authority to take administrative proceedings and issue orders
- IC 13-23-14 - Authority to assess penalties for LUST violations

**IDEM has the following infrastructure regarding enforcement proceedings at LUST sites:**

- ULCERs database – This database is used to document and track site characterization and remediation activities related to compliance
- METs database – This database is used to track enforcement proceedings once a decision is made to pursue enforcement
- LUST Enforcement Manual – This manual was developed for LUST project management staff to outline the tools, policies, and procedures related to enforcement actions

**IDEM has the following staffing used to take formal enforcement actions:**

- LUST Project Managers – Once the enforcement referral is made, the Project Manager works with the Case Manager and Attorney to develop the case and track technical compliance with the enforcement settlement
- Enforcement Case Manager – The Enforcement Case Manager leads the enforcement process and tracks milestones related to the process
- Enforcement Attorney – The Attorney provides legal support to the Case Manager in developing and completing the enforcement action

#### **H. Land Advisory Group**

The Land Advisory Group (LAG) serves to provide direction and a mechanism for peer review to the Office of Land Quality's programs to ensure that documents developed by OLQ and submitted for external publication and/or placement on the Web page meet Office standards. The Group is comprised of senior level staff led by a Branch Chief and includes Section Chiefs and E7s (technical experts). Others, such as SEM1s, may be consulted or assigned to a workgroup for further discussion as applicable. This group does not replace other policy groups such as the RAG (RCRA Advisory Group).

## c. Overview of Office of Water Quality (OWQ) QA Procedures

### (1) Description of Program Specific QAPPs or Other QA/QC Processes:

**Watershed Management Section:** Section 319 Projects provide QA/QC through the QAPP process. Any Section 319 Project doing environmental monitoring are required to complete a QAPP before monitoring begins. They are required to follow the Guidance for Preparing QAPP for Section 319 Project document, which spells out all of the elements that must be included. The QA/QC Coordinator in the Watershed Management Section reviews and approves the QAPP.

Grant recipients are required to submit a QAPP prior to monitoring activities, to report on monitoring activities in each quarterly report, and to include data in their final report. The QAPP identifies who performs these functions for each Section 319 Project/Grant at the local level.

**Water Quality Standards:** Quality assurance responsibility for surface water programs resides in the Toxicology and Chemistry Section in the OWQ Assessment Branch. They provide services to various programs within OWQ to ensure that analytical data collected meets individual project objectives. OWQ depends on the Toxicology and Chemistry Section to review and assign data quality assessment levels, which are identified in the Surface Water Quality Assurance Plan developed by the Toxicology and Chemistry Section.

**104(b)(3) and 205(j) Grant Programs and the EMPACT Grant:** Projects in the program provide QA/QC through the QAPP process. The QAPP is developed by the Project Managers based on guidelines, "EPA Requirements for QAPPs" (EPA QA/R-5, Final-March 2001) and is submitted for review and comment by the QA/QC staff. The QAPP is approved by the OWQ QA/QC staff once all comments are addressed and answered.

Grant recipients are required to submit a QAPP prior to monitoring activities, to report on monitoring activities in each quarterly report, and to include data in their final report. The QAPP identifies who performs these functions for each 104(b)(3) and 205(j) Project/Grant at the local level.

**305(b):** Section 305(b) of the Federal Water Pollution Control Act requires states to prepare and submit a water quality assessment report of state water resources every two years to the USEPA. This report includes a background overview of the Indiana water program, surface water assessments, and ground water assessments. The report is developed from a variety of existing data and water quality assessments that are reviewed and compiled by staff within the Water Quality Standards (WQS) Section in OWQ. The report is based on procedures following USEPA guidelines. QA/QC reviews of laboratory and assessment data are supplied with each analysis package to the Project Managers. The report is reviewed by the Planning and Assessment Branches of OWQ and approved by WQS Section Chief, Planning Branch Chief, and Assistant Commissioner of OWQ.

**TMDL:** Section 303(d) of the Clean Water Act requires states to identify waters that do not or are not expected to meet applicable water quality standards with Federal technology based standards alone. States are also required to develop a priority ranking for these waters taking into account the severity of the pollution and the designated uses of the waters. Once this listing and ranking of waters is completed, the states are required to develop Total Maximum Daily Loads (TMDLs) for these waters in order to achieve compliance with the water quality standards. The Assessment Branch of OWQ is responsible for development of TMDLs. Streams on 303(d) List of Impaired Waters in the State of Indiana are sampled and the results are evaluated to determine if the impairment still exists. If so, additional sampling/data collection is done to develop the appropriate stream model. The sampling data and modeling results determine the approach described in the TMDL for the stream. The development of TMDLs are explained in more detail in the IDEM Office of Water Quality TMDL Guidelines. The results are reviewed by the Assessment Branch of OWQ and approved by the Toxicology Section Chief, Assessment Branch Chief, and Assistant Commissioner of OWQ.

QA/QC reviews of laboratory and assessment data are supplied with each analysis package to the Project Manager. The Program Manager subsequently reports to Section Chiefs and Branch Managers. The TMDL Section samples and compiles the report and the Toxicology Section of the Assessment Branch provides the data analysis of the information contained in the report.

## (2) OWQ SOPs

**Watershed Management Section 319:** There is a SOP for the 319 Project QA/QC Coordinator to follow, and QAPP guidelines for the grant recipients to follow. The 319 Project QA/QC Coordinator provides review, comments, and approval of SOPs and project QAPPs developed by the grant recipients.

**Water Quality Standards:** Quality standards for the Water Quality Standards are provided by the OWQ Assessment Branch. The process includes QA/QC review of laboratory data by the Toxicology and Chemistry staff and review of field data by Assessment Branch staff after entry of data into the Assessment Information Management System (AIMS). The AIMS is a database system for project management, data storage, and retrieval of data from Assessment Branch projects or activities. This process is documented in the ongoing program "QAPP for IN Surface Water Quality Monitoring Programs." There are SOPs in the Assessment Branch used to implement the Water Quality Standards, and the QAPP is reviewed and approved and kept on file with EPA Region 5 Office.

**104(b)(3) and 205(j) Grant Programs and the EMPACT Grant:** There is a SOP for the QA/QC Coordinator/Grant Project Manager to follow, and QAPP guidelines for the grant recipients to follow. The QA/QC Coordinator/Grant Project Manager developed the QAPP preparation guidelines based on the EPA "Content Requirements for Quality Assurance Project Plans" (EPA QA/G-5, Final – February 1998) and provides review, comments, and approval of QAPP.

**TMDL:** Quality Standards are provided by the OWQ Assessment Branch. The process includes QA/QC review of laboratory data by the Toxicology and Chemistry staff and review of field data by Assessment Branch staff after entry of data into the Assessment Information Management System (AIMS). AIMS is a database system for project management, data storage, and retrieval of data from Assessment Branch projects or activities.

### (3) Approval Process for OWQ 305(b) and TMDLs

The following are the generation, review, and approval processes for 305(b) and Total Maximum Daily Loads (TMDLs).

**Water Quality Standards 305(b):** Section 305(b) of the Federal Water Pollution Control Act requires states to prepare and submit to the USEPA a water quality assessment report of state water resources every two years. This report includes a background overview of Indiana water programs, surface water assessments, and ground water assessments. The report is developed from a variety of existing data and water quality assessments that are reviewed and compiled by staff within the Water Quality Standards Section in OWQ, based on procedures following USEPA guidelines. The report is reviewed by the Planning and Assessment Branches of OWQ, and approved by the Water Quality Standards Section Chief, Planning Branch Chief, and Assistant Commissioner of OWQ.

**TMDL:** Section 303(d) of the Clean Water Act requires states to identify waters that do not or are not expected to meet applicable water quality standards with Federal technology based standards alone. States are also required to develop a priority ranking for these waters taking into account the severity of the pollution and the designated uses of the waters. Once this listing and ranking of waters is completed, the states are required to develop Total Maximum Daily Loads (TMDLs) for these waters in order to achieve compliance with the water quality standards. The Assessment Branch of OWQ is responsible for development of TMDLs. Streams on 303(d) List of Impaired Waters in the State of Indiana are sampled and the results are evaluated to determine if the impairment still exists. If so, additional sampling/data collection is done to develop the appropriate stream model. The sampling data and modeling results determine the development of the TMDL for the stream. The development of TMDLs are explained in more detail in the IDEM Office of Water Quality TMDL Guidelines. The results are reviewed by the Assessment Branch of OWQ and approved by the Toxicology Section Chief, Assessment Branch Chief and Assistant Commissioner of OWQ.

### (4) Ground Water Section

There are several existing documents that the Ground Water Section uses to govern the quality and consistency of implementing ground water protection programs. The most significant of these documents are Indiana's Wellhead Protection Program, approved by EPA April 7, 1997; Indiana's Source Water Assessment Program, approved by EPA May 5, 2000; Indiana's Wellhead Protection Rule, 327 IAC 8-4.1, effective March 28, 1997; Ground Water Quality Assurance Program Plan, May 1995; Monitoring Well Network Field Manual, May 1997; COP for Private Well Complaint Response Program; American Society of Testing and Materials (ASTM) Standards for ground water modeling; and other Federal and State standards and guidance documents.

### (5) Public Water Supply Compliance Section

The Public Water Supply Compliance Section implements Federal drinking water regulations mandated by the Safe Drinking Water Act. The Indiana compliance regulations can be found at 327 IAC 8-2 and 327 IAC 8-2.1.

### (6) OWQ Report Writing

Data analysis and report writing are handled differently in various OWQ sections.

**Watershed Management Section 319:** The QAPP spells out who performs these functions for each Section 319 Project/Grant at the local level.



**104(b)(3) and 205(j) Grant Programs and the EMPACT Grant:** The QAPP identifies who performs these functions for each 104(b)(3) and 205(j) Project/Grant at the local level.

**Water Quality Standards 305(b):** The Water Quality Standards Section compiles the report, and the Toxicology Section of the Assessment Branch provides the data analysis of the information contained in the report.

**TMDL:** The TMDL Section samples and compiles the report, and the Toxicology Section of the Assessment Branch provides the data analysis of the information contained in the report.

#### **d. Office of Enforcement QA Procedures**

The Multimedia Enforcement Tracking System (METs) database is used to track Agency enforcement proceedings once a decision is made to pursue enforcement. There is a METs database tracking system "User's Manual," and all Office of Enforcement employees are trained in the use of the METs database, and have access to the training manual. The manual, which provides definitions of terms, is a "how to" about entering enforcement information into the database, and what the information means. The METs database has provided tremendous improvement in how enforcement activities are tracked, documented, and are moved through the enforcement process more rapidly than prior to METs database tracking.

The four Enforcement Section Chiefs are ultimately responsible for managing and evaluating their staff's performance with regard to all aspects of the enforcement work process. One specific Section Chief QA/QC duty is to review and monitor the information that is submitted into the METs database by the Case Managers or other enforcement personnel.

All Enforcement Section Chiefs have a procedure for reviewing information that has been entered into the database by the Case Managers. One QA/QC tool is to periodically review printed reports of the METs database. The review of these reports helps ensure quality entry of enforcement data, and also documents that the enforcement process and statutory requirements are met. It also provides another review of enforcement cases to ensure that enforcement actions taken are 'appropriate' for the violation.

Another aspect of quality assurance that is inherently important for the Office of Enforcement is to ensure that enforcement actions are consistent and defensible. The IDEM Office of Enforcement staff (Case Managers and the respective Section Chief, as well as the Assistant Commissioner) review and re-review all referral packets to ensure that the actions taken are defensible in court. This review process also ensures that a sufficiency of evidence is available and applicable to the violated rule or statute. The Agency's Office of Legal Counsel (OLC) also reviews the draft 'notices of violation' prior to sending to the alleged violator.

It is the overall responsibility for the Assistant Commissioner of the Office of Enforcement to ensure that similar violations are handled in a similar way when O/E reviews violation referrals from each particular Program Office.

## **e. Internal Projects**

Program Office Quality Assurance Managers will provide technical assistance, as necessary, in the development of the QAPP for each data generation activity. Again, the IDEM QA Manager will track all approved QAPPs, and will also evaluate the implementation of these plans through Technical Systems Audits and Management Systems Reviews.

### **(1) OLQ UST/LUST**

In October 1994, the UST Branch at IDEM published an updated version of the "Underground Storage Tank Branch Guidance Manual" (IDEM OLQ UST, October 1994). The manual was developed to provide guidance to responsible parties, consultants, and IDEM staff to ensure consistency of reporting, quality assurance procedures, and cleanup objectives. The Manual was replaced in April 2001 with the final versions of the IDEM Risk Integrated System of Closure (RISC) volumes. RISC consists of two volumes – Technical Guide and Users Guide. RISC provides risk-based guidelines and greater flexibility for closure than does the recently replaced UST Guidance Manual.

## **f. External Projects (Grants, Contracts, Interagency Agreements)**

Projects covered in this category are subject to the same quality assurance requirements described in this Quality Management Plan. The fulfillment of these requirements is the responsibility of the respective IDEM Program Offices. The oversight and implementation procedures are described in CHAPTER 4, "Procurement of Items and Services."

# **D. EVALUATION AND ASSESSMENT TOOLS**

Primary QA evaluation and assessment tools include: Management Systems Reviews (MSRs), Technical Systems Audits (TSAs), Performance Evaluations, and Data Quality Assessments (DQAs). Most of these are arranged and coordinated by the IDEM Quality Assurance Manager. The IDEM QA Manager will also participate in the review process. Specific procedures for applying these tools are specified in this IDEM QMP (See CHAPTER 9, "Assessment and Response"), including a requirement that all QAPPs must be approved, in writing, prior to implementation.

## **1. QA Status Reports**

Each QAPP created for environmental data collection must include a section discussing the frequency, content, and format of the required QA status report. These factors are determined by the relevant Project Officer and Program area QA personnel when the QAPP is developed and written. The status reports are submitted to the Program specific QA Manager, and will be used to help track the progress of QAPPs through project implementation.

**Each status report must address, at a minimum, the following elements:**

- status of project
- changes in project activities (sampling, quality control measures, analytical methods)



- results of performance and systems audits
- corrective actions taken
- project organization changes
- assessment of data quality indicators (precision, accuracy, completeness, representativeness, and comparability)

## **2. Technical Systems Audits (TSA)**

All programs that employ environmental sample collection and analyses are subject to a Technical Assistance Audit (TSA). The TSA involves a thorough review of the facilities, equipment, sampling, analysis and documentation procedures, data validation, management processes, training procedures, and the reporting aspects of the technical system for collecting or processing environmental data. TSAs may be routinely planned by the IDEM QA Manager, specifically requested by a program, or result from other audit or review findings. The IDEM QA Manager is responsible for scheduling the TSA, assembling the audit team, and participating in the TSA. TSA results will be reported to the audited organization in the form of a written report. See CHAPTER 9, "Assessment and Response", for a further discussion of TSAs.

## **3. Management Systems Reviews (MSR)**

Management Systems Reviews (MSRs) will be performed for each IDEM Office once every five years. The MSR will qualitatively assess a program's organization and data collection procedures to determine if the Quality System in place is adequate to ensure the quality of the program data. The IDEM QA Manager is responsible for assembling the audit team and coordinating audit activities. The IDEM QA Manager and QA representatives from outside the Agency, or the audited Program Office, will conduct the audit using current EPA Quality Assurance Division Guidance. Results of any MSRs conducted will be promptly shared with the Program Senior Management upon completion of the review (but prior to a final written report). The Senior Management of the program reviewed is responsible for taking any necessary corrective actions and determining whether additional audit activities are required.

## **4. Annual QA Assessment Meeting**

Before the beginning of each fiscal year, the IDEM QA Team will meet with Program Managers and Project Managers to discuss the status of IDEM's QA efforts and to develop a work plan for the upcoming fiscal year. The meeting notes will serve as a QA Status Report and Work Plan. This document will be submitted to IDEM Management. The QA Status Report reflects the implementation status of the IDEM Quality Assurance Program. The Work Plan describes major QA activities planned for the coming fiscal year, including specific planned audits and audit responsibilities.

**The QA Report/Work Plan will contain the following information, at a minimum:**

- implementation status of the IDEM QA Program

- revisions to the IDEM Quality Management Plan
- significant QA related needs (i.e., new policies, changes to existing policies, guidance documents, audit protocols, etc.)
- status of QA Programs/Projects and Standard Operating Procedures
- audits conducted or planned
- resource changes
- training plans and needs

# CHAPTER 3

## Personnel Qualifications and Training

**Purpose** – To document the procedures for assuring that all personnel performing work for IDEM have the necessary skills to effectively accomplish their work.

**Goal** – IDEM personnel performing work on environmental programs will possess adequate education, training, and experience to satisfactorily perform assigned work. Initial and ongoing personnel qualifications will be determined, training needs will be identified, access to appropriate training opportunities will be provided, and the acquisition of needed knowledge and skills will be verified.

### I. PERSONNEL QUALIFICATIONS

Personnel qualifications are established by the hiring Program Manager, IDEM Human Resources, and the State Personnel Department, and job qualifications are documented in the employee position description. Each position classification has a minimum set of qualifying criteria that may include: academic degree, certification, experience, or some combination of these. IDEM Human Resources is responsible for the classification system and, in consultation the State Personnel Department, establishes the qualifying criteria. Personnel, directly hired by or who transfer to the Indiana Department of Environmental Management, are required to meet the requirements specific to the various job classifications required by IDEM. IDEM Human Resources staff review job classifications and, on occasion, conduct position audits to ensure staff are classified correctly.

Program Managers are responsible for ensuring that each staff member involved with collecting or analyzing environmental data has the necessary technical, quality assurance and project management training, and certifications required for their assigned tasks and functions. Program Managers are also responsible for ensuring that technical staff maintain the necessary level of proficiency to effectively meet QA responsibilities. Individual position descriptions for staff members collecting or analyzing environmental data will be reviewed and amended as necessary to reflect QA responsibilities. QA training and additional development needs will be identified as part of annual performance evaluations for these positions. Work improvement plans may be used to address remedial training needed to correct deficiencies in performance, educational preparation, or professional experience, and to address prerequisites for advancement and new or unique job requirements.

Individual position descriptions are prepared for each IDEM position. Individual position descriptions specify essential job functions; the relative importance of job functions; the level of effort devoted to job functions; physical and environmental demands and hazards; cognitive skills; oral and written communication requirements; and other job-related knowledge and skills. IDEM Human Resources maintains individual position descriptions.

The quality in IDEM programs is assured through hiring qualified QA/QC staff, through staff experiences within specific programs, and through staff education. Each Program Section is trained in quality assurance to ensure staff is aware of and understands the quality issues associated with their work. All IDEM staff receive QA/QC updates through classes, brown bag seminars, presentations, or e-mails about new techniques. Section work is performed under an approved QAPP, work plans, and SOPs, which are covered under the umbrella of the IDEM QMP.

The IDEM QA Manager position description requires at least two (2) years of experience in quality assurance/quality control practices either within the State environmental Agency, or some other similar, scientifically related work experience in which quality assurance/quality control duties were performed.

---

## **II. PERSONNEL TRAINING**

### **A. IDENTIFICATION OF TRAINING NEEDS**

All new employees go through orientation training to initially familiarize them with the Agency and employment requirements. Generally, quality assurance related training needs will be assessed first by estimating which personnel within each Program Office have quality assurance related responsibilities, what specific types of quality assurance functions they perform, and with what frequency. Specific QA/QC training needs that cannot be met with existing programs will be communicated to the IDEM QA Manager, who will assist in identifying an appropriate training program. Program Managers will also identify program specific training needs, including those for critical technical disciplines.

Internal training includes hands-on, on-the-job training, and operations training using detailed SOPs, and/or technical and non-technical reference documents. IDEM training covers a wide range of topics including, but not limited to, continuing education, meeting certification requirements, or simply familiarizing people with the newest regulatory approaches or technology.

External training for safety, computer operations, instrument operations, personnel management, and project management are scheduled when appropriate, and as funding allows. Program Managers track each employee's training and document all training in personnel files. Additional training requirements are added as new programs are added or when a change in technology requires additional information/training.

The IDEM also supports the effort of employees pursuing advanced degrees, when the course work is directly related to the employee's work responsibilities, by providing tuition reimbursement for applicable classes attended.

## **1. Responsibilities**

Program Managers are responsible for ensuring that each staff member involved with collecting or analyzing environmental data maintains the necessary technical, quality assurance, and project management training and certifications required for their assigned tasks and functions. The individual Program Offices, through their quality assurance staff and with assistance from the IDEM QA Manager, are responsible for identifying needed QA training within their programs. The Program Office QA Managers are responsible for arranging or providing for the training needs so identified, or the IDEM QA Manager may assist in identifying or creating an appropriate training program. The Program Office QA Managers will also be responsible for identifying the need for staff retraining based on changes in requirements or technology.

## **2. Implementation of Training Requirements**

The IDEM QA Manager will coordinate formal QA training with the IDEM Human Resources, and possibly EPA Region 5. It is anticipated that the following EPA Quality Staff Training Courses will be utilized to meet the needs of IDEM employees when applicable to the employee's particular QA responsibilities.

## **3. Generic Training Courses**

- Introduction to Data Quality Objectives
- Introduction to EPA Quality System Requirements
- Introduction to Quality Assurance Project Plans
- Introduction to Quality Management Plans (Half-day course)
- Overview of the EPA Quality System (2 Hours)
- Quality Management Plan Briefing (1 Hour) - Contains presentation materials and a Fact Sheet, which can be used to educate Managers on EPA's requirements for Quality Management Plans

(All courses are usually one-day in length unless otherwise noted)

IDEM employees who write, review, and approve Quality Assurance Project Plans do undergo QAPP review training, which may occur in a variety of formats. Some reviewers are 'tenured' employees who have been performing these duties for many years, and they may provide on-the-job training or mentoring for newer employees regarding the QAPP writing and/or review processes. Other employees may utilize the EPA QAPP Requirement and Guidance documents for writing, reviewing, and approving QAPPs. A QAPP video is available, which also describes the QAPP writing and review process, and the EPA Web site offers 'downloadable' files, which are designed with a 'how-to' approach for individuals who write, review, and/or approve QAPPs. These downloadable files provide an overview of QAPP development, which stress the need for systematic planning, as well as EPA's graded approach to project plan development. The Web site program also describes in detail, the twenty-four elements of a QAPP. This EPA site is listed in #4 below on page 86.

IDEM has also requested that EPA Region 5 staff present both the QAPP and DQO one-day (each) training sessions to IDEM employees, and Region 5 has offered to coordinate these training sessions for IDEM employees as early as the Fall of 2001. The IDEM QA Manager has a list of employees who are interested in attending such a training, and will continue to investigate whether there are others who would like to attend as well. These training sessions would allow IDEM employees who write, review, and/or approve QAPPs, but who have not had the 'official' EPA QAPP training, to receive additional information and ask questions about these processes. Any formalized training will be documented in each employee's human resource file.

#### 4. Specialized Training Courses

- Integrating Quality Assurance into Project Development
- Sampling Designs to Support QA Project Plans
- Train the Quality Assurance Trainer

(one or two days in length)

Many of the above listed EPA training courses are available to download from the Internet at: <http://www.epa.gov/quality/trcourse.html>.

Many requirement and guidance documents are also available on the EPA Web site regarding many Quality Assurance and Quality System issues. Visit: [http://www.epa.gov/quality/qa\\_docs.html](http://www.epa.gov/quality/qa_docs.html) for a specific list of available documents. The EPA "Guidance for Developing a Training Program for Quality Systems" (EPA QA/G-10, Final - December, 2000) is one such guidance document available as a QA training resource.

The IDEM QA Manager is expected to take, or have taken, all of the above courses, or their equivalent, within two years from the effective date of this QMP. Other IDEM QA staff will complete QA courses that correspond with their QA responsibilities. In addition, QA staff are encouraged to attend meetings and seminars, to take formal training, and to enhance their understanding of the technical programs and procedures they work with.

The IDEM QA Manager is expected to attend the EPA Annual National Conference on Managing Quality Systems for Environmental Programs. (The IDEM QA Manager, hired in mid-February 2001, attended the Spring 2001 EPA 20th Annual National Conference on Managing Quality Systems for Environmental Programs).

IDEM staff will be encouraged by Program Managers to draw upon their educational background, experience, professional symposia, and on-the-job training to enhance their understanding and performance of QA related procedures.

## 5. Assurances for Grants and Contracts

Project Managers are responsible for ensuring that all grant recipient or contract personnel involved with data generation have the necessary QA training to successfully complete their granted or contracted tasks and functions. Minimum QA training requirements should be described in Broad Agency Announcements (BAAs), Requests for Proposals (RFPs), all specific Statements of Work (SOW) or similar documents, and in grant applications and/or conditions. In addition, the IDEM QA Manager will work with Program Managers and IDEM Human Resources to ensure that fundamental training courses for grants and contracts include segments addressing QA requirements and responsibilities for Project Managers.

## 6. Documentation of Training

IDEM Human Resources will keep a record of all quality assurance training taken by staff and managers responsible for environmental data generation. Training certifications will be documented in employee personnel files, as well as approved requests to attend formalized training sessions or conferences/workshops. A computerized tracking system is maintained in Human Resources for documenting all employee training. A detailed list of employee training opportunities will also be kept on file with the IDEM Training Director.

In addition, the Office of Land Quality is in the process of developing a tracking system to maintain staff training records. When the Agency data integration process is complete, the IDEM Human Resources employee training database will be a part of the new standardized system.

## B. OAQ TRAINING

Some examples of training courses required for various personnel in the OAQ are listed below:

**Table 4: OAQ Training Courses**

Course	Course
24 Hour HazMat Site Refresher Course	Motor Vehicle Emissions Control
Advanced Web Page Development	Municipal Waste Combuster: New Regulatory Requirements
Air Quality Index Guidelines	No Injury, No Accident
Air Pollution Statistics for the Reporting of Precision and Accuracy	NOx Audit Training
Air Pollution Meteorology	Nurse Vera Explains It All
Air Toxics Today	Orientation to Laboratory Safety
Air Surveillance for Hazardous Materials	Overtime Training
Air Toxic - GC/MS Analysis of Canisters	Overview of new rule changes in Medical Waste Incineration
Air Toxic - Canister Receiving	Paradox Basics 5.0/WIN
AIRS/ AFS (AIRS Facility Subsystem)	Performance Appraisal

Course	Course
Analytical Methods of Air Quality Standards	PM2.5 Conference Call Balance Room
Automated Coding System ACS	PM2.5 Training Program QA/QC
Chain of Custody	PM2.5 Operations Training
CPR	PM2.5 Monitoring Update 1036
Dasibi Technical Training	PM2.5 Data Analysis
Demonstration of Atmospheric Gases	Pollution Prevention
Developing DQOs for State and Local PM2.5 Speciation	Quality Assurance for Air Pollution Measurement Systems
Dispersion of Air Pollution Theory and Application	Quality Assurance for Source Emission Measurement
EPA Workshop on NO	Quattro Pro Intermediate 6.0/WIN
Excellence in the Public Sector	Recent Advances in Continuous Emission Monitoring
Fire Basics in the Workplace	Safety on the Job: Working with Electricity
FRM PEP PM 2.5 Training (Fed Ref. Performance Eval. Program)	Safety on the Job: Preventing Back Injuries
Gas Monitoring Instruments and Maintenance Course	Safety on the Job: Working on Ladders, Poles, and Scaffolds
General Quality Assurance	Safety on the Job: First Aid for Accidents
GroupWise	Safety Showers and Eye Washes
Hazardous Materials Site Training	Sampling of Hazardous Air Pollutants
How to manage multiple projects, meet deadlines, and achieve objectives	Source Sampling for Particulates
IDEM Policies and Procedures	Spills Happen
Implementing Air Quality Monitoring Regulations	Statistical Methods in Ground Water Pollution
Introduction to Air Toxics	Technical Writing Skills
Introduction to Hazardous Air Pollutants	Thinking Through Safety
Laboratory Economics	Total Quality Management (TQM)
Mass Flow Calibration Using Molbloc/Molbox	Use of Compressed Gases
Mathematics Review for Air Pollution Control	Vermette - wet/dry deposition sampler
Microsoft Word 8	Visible Emissions Training and Certification
Microsoft Excel 8	Windows 95
Microsoft Access 8	Workshop on Nitrogen Oxides Monitoring
Monitoring and Evaluation of Air Toxics	



## **1. Specific Personnel Qualifications and Training Component for the Lead-Based Paint Program:**

House Enrolled Act 1181 mandated the establishment of the Lead-Based Paint Program in Indiana and the development of lead-based paint rules by the Indiana Air Pollution Control Board. Through rules, IDEM modeled its Lead-Based Paint Program after the USEPA's standard for lead professionals, training, and work practice standards. IDEM staff who perform compliance inspections have been cross-trained in lead-based paint courses, as well as in asbestos courses. In addition, staff receive training in state rules, database management and information on licensing, training courses provided, complaints, and enforcement actions. Staff training is required in the following areas:

### **a. Inspectors**

- 40 Hour Hazmat (initially, followed by annual 8 hour refresher)
- Lead-Based Paint Inspector and Risk Assessor Courses
- In-house training conducted by staff (staff conducting training have at least 10 years of inspection experience), including on-site inspection techniques, procedures following USEPA documented methodologies for inspection, and enforcement policies and procedures

### **b. Licensing**

- In-house training conducted by staff (staff conducting training have at least 10 years of inspection experience), including rule, database management, and information processing
- Lead-Based Paint Inspector and Risk Assessor Courses

### **c. Training Providers**

- In-house training conducted by staff (staff conducting training have at least 10 years of inspection experience), including rule, database management, and information processing. Field audits to be conducted with staff
- Lead-Based Paint Inspector and Risk Assessor Courses

IDEM does not internally perform any lead analyses, and they do not own or use any analytical equipment, specifically an XRF instrument. IDEM in-house lead inspectors do, however, receive training in the use of the XRF instruments while attending training school provider courses, and if any XRF instruments were to be purchased by the Agency, the inspectors would receive additional manufacturer training in the use of the XRF equipment. Because IDEM inspectors are trained in the use of XRF instruments, they are capable of evaluating the proper use of the XRF equipment by licensed contractors during on-site inspections, as well as reviewing licensed contractor records for abatement projects.

## C. OLQ TRAINING

Training is conducted through several different mechanisms. It can take the form of classes or seminars, working with a Program Manager or mentor, and on-the-job training. The training for quality assurance staff consists of general training that is provided to all staff and specialized training, which is directed toward the specific duties of the position.

Training needs are generally determined by the Branch or Section Managers, and by peer review of staff strengths and weaknesses. This is done in conjunction with the Human Resource Training Coordinator and the State Personnel Department. The IDEM QA Manager will also work with the Human Resource Training Coordinator to determine Agency training needs, and to then document employee training opportunities.

The training needs vary according to the program, position, and previous training of the individual staff member, and include any mandatory State or Federal training, as well as courses recommended by the US Environmental Protection Agency. These needs are constantly being reassessed based upon changing requirements, regulations, and technology.

### 1. OLQ UST/LUST TRAINING

Project Management and Technical Services staff receive training regarding their responsibilities.

**Materials used to ensure they are qualified include the following:**

- UST laws
- UST Branch Guidance Manual
- Other policies and procedures

**Methods used to ensure they are qualified include:**

- Review of laws, policies, and procedures
- Mentoring by experienced staff in the office through peer review of documents and correspondence
- Mentoring by experienced staff in the field at sites to review safety issues and observe field techniques and technologies
- Cross-training from other program staff including UST Compliance, Geology, and Chemistry
- Additional formal training as opportunities and funds are available
- Staff meetings to continually update staff regarding laws, policies and practices, as well as technology issues
- Performance appraisals completed by the Program Manager.

## **2. General OLQ Training and Documents**

- Employee Orientation
- RCRA Orientation
- 40 Hour Safety Awareness Training (24 Hour when appropriate)
- 8 Hour Refresher Training (annually)
- RISC (Risk Integrated System of Closure) Training (5 days)
- Appropriate computer training
- GPS Training
- Appropriate instrument operation training
- Ethics
- Legislative Process
- IDEM Policies and Procedures (General Agency)
- Program appropriate portions of the Code of Federal Regulations, IN Code, and IN Administrative Code
- Underground Storage Tank Guidance Manual, January 1995
- Voluntary Remediation Program Guidance, July 1996
- RISC Technical Resource Guidance Manual and User's Guide, February 1999

In addition, all Agency Program Managers are required to take a series of eleven management related courses. These courses are required to be updated every other year.

## **3. OLQ QA Related Training and Documents**

- Guidance to the Performance and Presentation of Analytical Chemistry Data, IDEM Nonrule Policy Document #0032, July 1998
- SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition (1986) and Updates I, II, IIA, IIB, III and draft IVA
- Standard Methods for the Examination of Water and Wastewater, 19th edition (1995)
- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, 1994 edition
- USEPA Contract Laboratory Program Functional Guidelines for Inorganic Data Review, 1994 edition
- Methods for Chemical Analysis of Water and Wastes, USEPA (1983)

- RCRA Quality Assurance Project Plan, IDEM (1995)
- RCRA Technical Enforcement Guidance Document, USEPA
- The Quality System, EPA QA/G-0\*
- Guidance for Preparing, Conducting, and Reporting the Results of Management System Reviews, EPA QA/G-3\*
- Guidance for the Data Quality Objectives Process, EPA QA/G-4\*
- EPA Guidance for Quality Assurance Project Plans, EPA QA/G-5\*
- Guidance for Data Quality Assessment, EPA QA/G-9\*
- EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations, EPA QA/R-5

\*One day course associated with this document

OLQ staff are encouraged to draw upon their educational background, experience, professional symposia, and on-the-job training to enhance their understanding of QA related procedures.

#### **4. Specialized Training for personnel working with Global Positioning System (GPS) or Global Information System (GIS) Data**

IDEM offers specialized training to personnel working with GPS or GIS data.

##### **a. Global Positioning System (GPS) Training**

Staff whose duties require GPS may take a 3-day, in-house, "Introductory GPS Training" course, which teaches basic GPS principles and the operation of mapping-grade GPS receivers. The introductory course also introduces the IDEM MAD (Method Accuracy Description) Codes, which are metadata for locational data. An advanced GPS course is currently under development for staff who need more thorough training in GPS. Staff who, at a minimum, have not successfully completed the 'introductory course' are not given access to the Agency's GPS receivers.

##### **b. Global Information System (GIS) Training**

A 3-day "Introduction to ArcView" class is offered to any staff who need to use basic GIS as part of their job duties. The course is taught by a certified ArcView instructor from IDEM's Fiscal Management Division, Information Technology Branch.

##### **c. GIS/GPS Documents and Resources**

- Indiana Department of Environmental Management, August 1999, GPS Training: GIS - Mapping Systems - GeoExplorer 2
- Indiana Department of Environmental Management, June 2000, GPS Training: GIS-Mapping Systems - GeoExplorer 3

- Indiana Department of Environmental Management, August 2000, IDEM Method Accuracy Description (MAD) Codes version 2.0
- Introduction to ArcView Training Manual, Environmental Systems Research Institute

## D. OWQ TRAINING

General training is conducted through various mechanisms including: classes, seminars, conferences, workshops, and actual on-the-job training. The training for quality assurance staff has developed from internal guidelines developed from EPA QA/QC documentation and training from EPA Region 5, prior work experience with QA/QC activities relative to water quality issues, and development of the basic understanding of the overall quality assurance processes from prior academic courses. Staff are encouraged to attend any quality assurance training opportunities that arise. The Section Chief will keep training records in the employee's personnel file, as well as notifying Human Resources of all employee training opportunities.

**Watershed Management Section 319:** Basic computer training is offered for the Microsoft Suite software package. New staff are required to be familiar with the QAPP guidelines and other guidance documents on QA/QC. Staff are sent to any appropriate training or conference opportunities, such as the National Nonpoint Source Monitoring Conference. Staff in the 319 Grant QA/QC Coordinator position will be hired with QA/QC experience relative to water quality monitoring. Staff are encouraged to attend any training opportunities that arise. The Section Chief will keep training records in the Section personnel files and also notify Human Resources of all employee training opportunities.

**104(b)(3) and 205(j) Grant Programs:** Training was developed from EPA QA documentation and QA training received from EPA Region 5. Staff in the Grant Project Manager/QA/QC Coordinator position will be hired with QA/QC experience relative to water quality issues. Staff are encouraged to attend any training opportunities that arise. The Section Chief will keep training records in the Section personnel files, and also notify Human Resources of all employee training opportunities.

**Drinking Water Branch Staff Training Needs:** Program Managers in the Drinking Water Branch are responsible for ensuring that all staff members are properly trained in their jobs in order to produce quality data. Compliance Section staff are given orientation to the rules by allowing them to review the rules, and then to ask questions of upper level staff when they are hired. In addition, they are trained in Microsoft Access to ensure that the data entered into the databases are entered accurately and linked to the proper water system. Staff are also provided opportunities to attend EPA training sessions on new rules as they are promulgated.

**Ground Water Section Staff** are afforded all in-house and external training opportunities authorized by the Branch and Office. Particular training courses in ground water modeling are approved as necessary, considering available resources.

**Field Inspection Section staff** attend Sanitary Survey Training either through EPA or IDEM, as soon as a course is offered following their hiring. They also work with another staff member for the first few weeks to receive specific on-the-job training. Field Inspection Staff also receive safety training, and training on instrument use, public health, drinking water plant operations, and new technologies. The Field Inspection Section has a Training Officer who is an Environmental Manager 2.

The Office Program Managers also play an active role in determining which staff are trained in which areas. The Managers assess the needs of the personnel as related to the training type. Staff also have input into the training that they need. The Program Manager/Training Officer is expected to take, or have taken, the courses that are recommended to the staff. All staff are provided with outside training opportunities, when available and affordable, to assist them in preparing and analyzing quality data. When staff attend training, the training record is kept on file with the IDEM Human Resources.

## **E. OFFICE OF ENFORCEMENT STAFF DATABASE TRAINING**

The Multimedia Enforcement Tracking System (METs) database is used to track Agency enforcement proceedings once a decision is made to pursue enforcement. There is a METs database tracking system "User's Manual," and all Office of Enforcement employees are trained in the use of the METs database, and have access to the training manual. The manual, which provides definitions of terms, is a "how to" about entering enforcement information into the database, and what the information means. The METs database has provided tremendous improvement in how enforcement activities are tracked, documented, and are moved through the enforcement process more rapidly than prior to METs database tracking. Employee training is documented in applicable Enforcement Section Chief employee files, as well as in Human Resources.

# CHAPTER 4

## Procurement of Items and Services

**Purpose** – To document IDEM’s procedures for purchasing items and services that directly affect the quality of environmental data.

**Goal** – The procurement of items and services will be controlled and documented to assure conformance with specified requirements (i.e., that contracted and subcontracted activities produce results of acceptable quality). Requirements and specifications will be included or referenced in procurement documents. The acceptability of purchased items and services will be verified and documented.

### I. PROCUREMENT PROCEDURE

The procurement by IDEM of contractual services and/or goods/equipment that directly affect the quality of environmental programs will be planned and controlled to ensure that the quality of services is known, documented, and meets the technical requirements and acceptance criteria of IDEM. Procurement will follow the appropriate processes and procedures as set forth in the State of Indiana Department of Administration (IDOA) 1998 Procurement Manual (See: [http://www.IN.gov/idoa/proc/procurement\\_manual.html](http://www.IN.gov/idoa/proc/procurement_manual.html)), and in the IDOA Professional Services and Leasing Contract Manual (IDOA, October, 1999). Generally, staff request that services or goods be purchased and submit the appropriate paperwork, including QA/QC requirements. The receipt of goods and management of services is controlled and maintained by program staff, based on the requirements written in the QAPP, DQOs, procurement documents, or service contract. This process is utilized throughout IDEM.

### A. PROCUREMENT DOCUMENTS

All procurements are defined in writing in one or more procurement document (i.e., purchase orders, invitations for bid, requests for proposals, and procurement contracts). These documents specify task and product specifications, as well as technical, quality, administrative, and other requirements. Approval requirements vary depending on the nature and cost of the item or service being purchased.

## **1. Requests For Quotation (RFQ) - Less Than \$5,000**

Requests for Quotation less than \$5,000 are solicited by the IDEM. IDEM selects at least three (3) known vendors to send the Requests for Quotation to, along with the specifications. After all quotations are received by the vendor, IDEM sends the request to the Procurement Division, Indiana Department of Administration, for processing. A Procurement Division Purchasing Administrator reviews the quotations, makes an award, and issues a purchase order.

## **2. Requests For Quotation (RFQ) - \$5,000 to \$25,000**

For Requests for Quotation greater than \$5,000 and less than \$25,000, IDEM determines the need, writes the specifications, and forwards the RFQ to the Procurement Division, Indiana Department of Administration, for processing. Once assigned to a Purchasing Administrator within the Procurement Division, at least three vendors are selected and Requests for Quotation are sent out to the respective vendors.

## **3. Invitations For Bid (IFB) - Greater Than \$25,000**

Invitations for Bid (greater than \$25,000 and less than \$50,000) vary from Requests for Quotation only in procedural requirements. Invitations for Bid are publicly advertised; bids obtained by Invitations for Bid rules are opened, microfilmed, and read publicly.

## **4. Broad Agency Announcement (BAA)**

A Broad Agency Announcement (BAA) is an open, competitive solicitation that enables the Agency to purchase professional, technical, scientific, artistic, or other unique services, the result of which is a professional, personal, or social services contract. The BAA is normally used for personal services contracts in excess of the small-purchase limit of \$25,000, but it may be used for lesser amounts.

### **a. Office of Water Quality (OWQ) BAA**

The existing Broad Agency Announcement for the OWQ laboratory services contains the specific project QA/QC requirements.

The Watershed Management Section 319 contracts and the 104(b)(3) and 205(j) grant program projects that require QA/QC are written in the proposals that are approved by EPA. OWQ will not contract with anyone until EPA gives the approval. Our contracts indicate that the contractor must provide the QAPP before any collection of data may begin. The Watershed Management Section 319 QA/QC Coordinator works with the contractors, usually small communities and Soil and Water Conservation Districts, to ensure proper development of the required QAPPs. The project QAPPs are submitted to the 319 Grant QA/QC Coordinator who reviews and approves the QAPPs. Appropriate signatures are obtained, and the approved QAPPs are sent to EPA for their records.



## 5. Request For Proposal (RFP)

The Request for Proposals (RFP) method is used for highly complex, generally costly procurements. Any questions concerning the solicitation must be submitted in writing before the due date and time for questions as stated in the Request for Proposal.

## 6. Changes To Procurement Documents

Changes to procurement documents generally receive the same reviews and approvals as original procurement documents. Some contracts contain provisions allowing “minor” changes to be made and approved by the Offices’ Operations Branch Chief, or the Assistant Commissioner. Also, approval requirements for contract changes are determined on the basis of the cost of the change rather than the total contract value.

### **Specific Procurement of Items and Services Component for the Lead-Based Paint Program:**

At the present time, lead-based paint field assessments are not contracted out. All lead samples taken for compliance/enforcement activities are conducted by an NLLAP laboratory, and are conducted within the specifications as outlined within IDEM’s contract with the NLLAP laboratory and USEPA standards.

The IDEM Broad Agency Announcement (BAA) contract process described above ensures that only an NLLAP, with the required Standard Operating Procedures (SOPs) and quality assurance policies and procedures in place, is selected to perform the analysis of lead samples for IDEM inspectors who might occasionally collect a sample in the field while on a compliance inspection. (A copy of the NLLAP contract is on file in the Asbestos/Lead Section of the Office of Air Quality Compliance Branch).

The NLLAP contract language ensures the laboratory will have the required quality assurance policies and procedures regarding QA audits, chain-of-custody considerations, and requirements for any sample type collected in the field.

IDEM does not internally perform any lead analyses, and does not own or use any analytical equipment, specifically an XRF instrument. IDEM in-house lead inspectors do, however, receive training in the use of the XRF instruments while attending training school provider courses, and if any XRF instruments were to be purchased by the Agency, the inspectors would receive additional manufacturer training in the use of the XRF equipment.

## B. QUALITY ASSURANCE REQUIREMENTS

Quality assurance requirements are determined by Program Managers, or Designee, with the assistance of Program Office quality assurance staff, and the QA/QC requirements are specifically described in procurement documents. These documents will include or reference appropriate design bases, certifications, and other requirements necessary to assure adequate quality and, to the extent necessary, require suppliers and subcontractors to have quality assurance programs consistent with the IDEM quality assurance program. All procurements are approved by Program Office technical staff to ensure adequate QA/QC prior to issuance. The requirements are defined in individual project DQOs and QAPPs. Another contract requirement is the submission of work products and reports that are required on a quarterly or twice per year basis to document the contractor's project implementation efforts.

Procurement documents issued for equipment, supplies, and/or services related to quality at all tiers of procurement will meet the requirements outlined in the following subsections.

### 1. Technical Requirements

Technical requirements will be specified in the procurement documents. The procurement documents will provide specific statements of standards or specifications required for services or items that directly affect the quality of results or products from environmental programs. Where necessary, these requirements will be specified by reference to specific drawings, regulatory requirements, specifications, codes, standards, EPA standard methods, procedures, or instructions, including revisions that describe the services to be furnished. The procurement documents will provide for identification of testing, inspection, and acceptance requirements of IDEM for monitoring and evaluating the contractor's performance.

#### **OLQ Technical Requirements**

For OLQ, quality assurance for environmental data collection is described in "Guidance to the Performance and Presentation of Analytical Chemistry Data" (IDEM OLQ, 1998). This document details the quality system, DQOs, sampling design and field quality assurance, QAPPs, field and laboratory operations, and the laboratory quality program and analytical guidelines. Laboratory services provided to the Site Assessment, Brownfields, VRP, NRDA, DERP, Superfund, and RCRA Corrective Action Programs must meet the requirements of EPA's Contract Laboratory Program (EPA-540/R-99-008 (PB99-963506), October 1999; EPA-540/R-94-013 (PB94-963502), February 1994; EPA-540/R-96/032 (PB96-963511) 1996).

### 2. Quality Assurance Review and Approval

For Broad Agency Announcements (BAAs), Invitations for Bids (IFBs), and Request for Proposals (RFPs) for equipment, supplies, and/or services that directly affect the quality of results or products from environmental programs, approval will be required by the Program QA Manager. Approval will be required prior to release of the procurement documents for award, and will assure that the documents are complete and contain the applicable requirements specified.

For other procurement processes as identified in Indiana Department of Administration 1998 Procurement Manual, the responsible Program Manager will review and approve the procurement and will assure that the necessary quality requirements are met for contractual needs. The Program Manager will be responsible for assuring contractual requirements are met by following up on the work contracted for. As noted above, work products or reports are also a contractual requirement documenting progress of the project.

### **3. Non-Direct Purchases**

For non-direct purchases, technical requirements will be specified in the procurement documents. Where necessary, these requirements will be specified by reference to specific drawings, regulatory requirements, specifications, codes, standards, EPA standard methods, procedures, or instructions, including revisions that describe the items to be furnished. The procurement documents will include testing, inspection, and acceptance requirements of IDEM for monitoring the supplier's performance and when required (e.g., items requiring calibration) requirements for certificates of conformance.

### **4. Acceptance of Items and Services**

Equipment, supplies, and/or services affecting quality received from suppliers are evaluated on delivery against acceptance criteria (i.e., task and product specifications and technical, quality, administrative, and other requirements) contained in the procurement documents. The responsible Program Manager, or Designee (usually the Project Manager), determines whether acceptance criteria have been met and whether the equipment, supplies, and/or services are adequate and appropriate for use.

Equipment, supplies, and/or services that do not meet acceptance criteria are not accepted for use. Corrective actions are initiated in accordance with state statutes, contract provisions, and IDEM procurement procedures. Corrective actions may range from repair or replacement of defective deliverables, to re-award of procurement.



# CHAPTER 5

## Documentation and Records

**Purpose** – To document appropriate controls for quality-related documents and records determined to be important to the mission of the IDEM.

### I. ROLES AND RESPONSIBILITIES

The IDEM Commissioner is responsible for the overall programmatic control of documents relating to the generation, analysis, and use of environmental data. The IDEM Commissioner has delegated responsibility for the control, distribution, and retention of documents related to environmental data operations to the Deputy Commissioners, Assistant Commissioners, Office Directors, Program Branch and Section Chiefs, and the Program QA Managers.

The Deputy Commissioners, Assistant Commissioners, Office Directors, Branch Chiefs, Section Chiefs, quality assurance staff and each Program QA Manager are responsible for assuring that quality assurance project plans, standard operating procedures, quality assurance assessment procedures, and other documents remain current while in their possession.

#### A. CENTRAL FILE ROOM

IDEM recently combined Office file rooms into one Centralized File Room. All public records, including Records of Decisions, permits, and official communications are maintained in the Central Filing Room. Work is currently underway to document processes, procedures, and standards for storing, tracking, and maintaining public records. These processes, procedures, and standards will be formally documented as a Public Records Procedure (SOP), and will be located electronically on the Agency's shared drive and Intranet.

Two versions of the Public Records Procedure have been drafted. One is an internal version that is for the benefit of IDEM employees, and is more detail oriented. This draft copy of the Public Records Procedure was disseminated to Office of Legal Counsel personnel and the Public Records Managers for their review in April, 2001. Final comments from the Public Records Managers are due in early May and the Public Records Procedure Manual will then be presented to Senior Staff for their review.

The second version is more condensed and primarily for public use. It does not contain all of the details, and is less confusing. This version should be completed by the end of May 2001.

IDEM is also working to centralize electronic databases with linkages being established in the next few years (for details, see CHAPTER 6, "Hardware and Software").

---

## II. QUALITY ASSURANCE DOCUMENTS

Documents that specify quality-related requirements and instructions include:

- Quality Assurance Guidance Documents
- IDEM Quality Management Plan
- Quality Assurance Project Plans
- Sampling and Analysis Plans
- Data Management Plans
- Administrative SOPs and Technical SOPs, including Quality Assurance Procedures
- Drinking Water Compliance Strategies
- Monitoring Plans
- Quality Assurance Project Plans for Laboratory Analysis (QAPjP)
- Statistical Evaluation Plans (StEP)
- Nonrule Policy Documents
- Internal Guidance Documents

### A. NATIONAL QA DOCUMENTS

Copies of national guidance or requirements documents issued by the EPA Quality Assurance Division for QMPs, QAPPs, SOPs, DQOs Process, training programs for quality systems, and other specific quality assurance practices are maintained by the IDEM QA Manager. They are distributed by the applicable Program Office to appropriate IDEM staff, grant recipients, and support contractors. When available, electronic copies will be placed on the IDEM shared-drive and Intranet, where they may be accessed and downloaded by all IDEM staff. QA documents specific to one Program Office are maintained by the quality assurance staff for the Office responsible for that program. All QA documents will be accessible through the Agency Intranet.

### B. QUALITY MANAGEMENT PLAN

The QMP will be maintained by the IDEM QA Manager. Copies will be provided to each Office within the Agency, and will be available on the IDEM shared-drive and Intranet. Insertion and distribution of revisions or updates to the QMP will be the responsibility of the IDEM QA Manager.

## C. TECHNICAL STANDARD OPERATING PROCEDURES

IDEM quality guidance documents covering specific environmental monitoring activities, such as field inspections; sample collection/handling; analytical protocols; and data review/validation are maintained by the appropriate Program Section Chief or other designated Program Representative.

Copies of specific guidance documents can be obtained from the appropriate Program Section Chief and may be made available in electronic form on the IDEM shared-drive and Intranet.

Program Section Chiefs or other designated Program Representative will be responsible for notifying the IDEM QA Manager as quality assurance guidance documents are developed or revised. Program Section Chiefs or other designated Program Representative is also responsible for providing new or revised guidance documents to the Intranet Administrator.

### 1. OAQ Technical Operating Standards:

The major compilation of program specific guidance for the OAQ Air Monitoring Branch, in the form of SOPs, is given by the IDEM OAQ Quality Assurance Manual. This document organizes air monitoring and quality assurance SOPs for numerous QAPPs.

#### **Specific Documentation and Records Component for the Lead-Based Paint Program:**

IDEM will maintain the following quality related documents:

- Application and licensing records for individuals and contractors
- Application and desk audits of training course providers, including instructor approval
- On-site training course audits
- IDEM personnel training records
- Lead-based paint abatement activity notification forms and reports
- Compliance inspection reports
- Laboratory analysis reports and chain-of-custody forms
- Investigation documentation and compliance/enforcement actions with related correspondence

Documents will be maintained by staff as determined by the Asbestos/Lead Section Chief and the IDEM Document Retention Policy, and documents will be kept in a secure area of the Section Office. Paper documents are archived after a period of five years and then sent to a Central Records File Room for storage based on Document Retention Policy. In addition, all electronic data will be maintained by the program staff and kept in the computerized document management system.

Documents will be maintained according to the document retention schedule described later in this chapter (See CHAPTER 5, “Documentation and Records” sections F,G, and H starting on page 107). It is the responsibility of the state archiving system to retain the records once the program’s useful life of any generated document has passed.

## **2. OLQ Technical Operating Standards**

QA documents are prepared or revised as program/project needs dictate (e.g., change in technology, change in regulated compounds or the allowable concentration, etc.). Once the need for a technical operating standard is determined, a workgroup is convened by the OLQ Land Advisory Group to draft the needed QA document.

### **OLQ Nonrule Policy and Guidance Documents**

In OLQ, guidance documents are complemented by nonrule policy documents. Nonrule policy and guidance documents are developed to provide further clarification to OLQ rules and policies. The documents are developed by workgroups sponsored by members of the Land Advisory Group (LAG), which has final approval authority over the documents. Once published, the documents are made available using the OLQ shared drive (APPENDIX D - List of OLQ documents by General Identification and Version #) and will eventually be published on the Office Intranet once it becomes active.

## **3. OPPTA Toxic Release Inventory (TRI) Technical Operating Procedures**

The TRI program uses a QA/QC process that is more effective than most other states. EPA representatives have lauded IDEM’s TRI process. However, the process is not yet documented in standard operating procedures because the QA/QC activities have been in the process of being developed and refined. OPPTA has committed to documenting the TRI QA/QC process by developing SOPs by December 31, 2001. The QA/QC standard operating procedures will include a data review/validation process as well. The TRI SOPs will be available on the Agency shared drive as well as the Intranet. The IDEM QA Manager will be notified when the SOPs are developed and approved by the OPPTA Assistant Commissioner.

One approach OPPTA uses to measure pollution prevention progress statewide is through the use of the Toxics Release Inventory Form R data. IDEM recognizes that the development of workable pollution prevention strategies and measurements depend on reliable, accurate, and useful data. Over the past five years, OPPTA has developed and implemented a quality assurance program for the Form R data to ensure the data is as complete as possible. Our focus for measuring pollution prevention progress is in Section 5 and Section 8 of the Form Rs.

Starting with the 1994 TRI, IDEM entered its own data and made telephone calls to facilities that met at least one of the following criteria:

- made documented errors in their submitted TRI Form R reports
- reported large increases and decreases in chemical specific production ratios
- reported a major increase or decrease in chemical specific totals for releases and environmental wastes
- reported a chemical in previous year but not the next year or vice versa



- submitted report(s) in the previous year, but not the current

OPPTA makes hundreds of phone calls and mails out hundreds of letters each year to quality assure the data. These contacts also provide for one-on-one technical assistance to reporting facilities.

If revisions to the reported materials are found to be necessary, IDEM tracks the response request to ensure data corrections are properly completed. This same procedure is implemented with the general phone contacts. Overall, IDEM commits an enormous amount of resources to this project. The benefit of knowing the data is as accurate as possible justifies the commitment of resources.

#### 4. OWQ Technical Operating Procedures

OWQ quality guidance documents covering program specific environmental monitoring activities such as field inspections; sample collection/handling; analytical protocols; and data review/validation are maintained in the form of SOP's. This program specific guidance is developed within the appropriate Section/Branch by the program QA/QC coordinator or appropriate program representative. The SOP's are reviewed internally within the Section/Branch. The program QA/QC coordinator or appropriate program representative is responsible to revise the SOP's as new procedures dictate. These documents are referenced within APPENDIX C of this document.

### D. QUALITY ASSURANCE PROJECT PLANS

Each Quality Assurance Project Plan (QAPP) will be maintained by the responsible Project Manager, who will also report to the IDEM QA Manager on the development of new QAPPs, or when revisions occur in existing QAPPs. An index of QAPPs will be then maintained and tracked by the IDEM QA Manager.

Copies of the QAPP will be provided by the Project Manager to all Agency and/or non-Agency personnel involved in the data collection and analysis of project data. Upon completion of the project, the QAPP will be stored in the Central File Room. Notice of relocation will be provided to the IDEM QA Manager.

#### 1. Office of Water Quality QAPPs

The policies on internal record keeping and tracking for the Office of Water Quality are generally defined in QAPPs.

**Watershed Management Section 319:** These are defined in "Guidelines for Preparing QAPPs for Section 319 Projects," and in "Standards for QAPPs for Section 319 Nonpoint Source Projects." See attached Appendices M, N, and O for the details of the Guidelines for Preparing QAPPs, Standard QAPP COP, and the QAPP Review Checklist.

**104(b)(3) and 205(j) Grant Programs and the EMPACT Grant:** These are also defined in "Guidelines for Preparing QAPPs for Section 319 Projects," and in "Standards for QAPPs for Section 319 Nonpoint Source Projects." See attached Appendices M, N, and O for the Guidelines for Preparing QAPPs, Standard QAPP COP, and the QAPP Review Checklist.

**TMDL:** These are defined in “QAPP for IN Surface Water Quality Monitoring Programs.”

**OWQ, Drinking Water Compliance Strategy:** The Drinking Water Branch is required to maintain a Compliance Strategy as part of their grant commitment to EPA. This Compliance Strategy includes information on the organization of the Public Water Supply System Program, the core Drinking Water Program activities, rule making activities, flow of information, compliance determination and evaluation, and rule implementation. It also includes information on the enforcement process as it pertains to Drinking Water. (Reference: Public Water Supply Systems Compliance and Enforcement Strategy, FFY 2001.)

**Ground Water Section, Ground Water Quality Assurance Program Plan, May 1995,** outlines the specific QA/QC procedures the contracted laboratories are to follow when analyzing ground water samples.

## E. OTHER DOCUMENTS

### 1. OLQ Quality Assurance Project Plans for Laboratory Analysis (QAPjP)

Quality Assurance Project Plans (QAPjP) must be submitted by all regulated entities conducting monitoring or sampling to OLQ and approved prior to the onset of monitoring. The Quality Assurance Project Plan (QAPjP) details the quality assurance/quality control procedures employed by the laboratory performing the analysis on the collected samples. OLQ chemistry staff review these plans for adequacy. (References: OLQ, 1996, Indiana Administrative Code, 329 IAC 10-21-1; OLQ, January 1999, OLQ Document 46 Guidance to the Performance and Presentation of Analytical Chemistry Data; OLQ, March 1997, OLQ Document 54 Hazardous Waste Analytical Data Deliverable Requirements; OLQ, May 1996, OLQ Document 38 Solid Waste Program Analytical Data Deliverable Requirements).

### 2. OLQ Monitoring Plans

Monitoring Plans must be submitted by all regulated entities conducting monitoring or sampling to OLQ and approved prior to the establishment of a facility's project monitoring system. The monitoring plan describes the proposed facility or project monitoring system. The monitoring plan must also include information about the geologic setting and aquifer characteristics of the facility or site. OLQ geology staff review these plans for adequacy. (References: IDEM Office of Land Quality, May 1996, Indiana Administrative Code, 329 IAC 10-15-4 and 329 IAC 10-24-4).

### 3. OLQ Sampling and Analysis Plans (SAP)

Sampling and Analysis Plans must be submitted by all regulated entities conducting monitoring or sampling to OLQ and approved prior to the onset of monitoring. The Sampling and Analysis Plan (SAP) details the sampling program, the frequency of data collection, and data submittal information including all chain-of-custody information. OLQ geology and chemistry staff reviews these plans for adequacy. (References: Indiana Administrative Code, May 1996, 329 IAC 10-21-1 and B2; OLQ, April 1998, Ground Water Sampling and Analysis Plan Preparation Guidance; OLQ, January 1999, OLQ Document 46 Guidance to the Performance and Presentation of Analytical Chemistry Data; OLQ, March 1997, OLQ Document 54 Hazardous Waste Analytical Data Deliverable Requirements; OLQ, May 1996, OLQ Document 38 Solid Waste Program Analytical Data Deliverable Requirements).

### 4. OLQ Statistical Evaluation Plans (StEP)

Statistical Evaluation Plans (StEP) are facility-specific plans that describe the statistical analysis program that will be used for statistical analysis of monitoring results from waste disposal facilities. The Statistical Evaluation Plan (StEP) must be submitted to OLQ and approved prior to performing statistical analysis. OLQ geology staff reviews these plans for technical adequacy. (References: OLQ, 1996, Indiana Administrative Code, 329 IAC 10-21-6; OLQ, February 1997, OLQ Document 41 Guidance for Statistical Evaluation Plan Preparation and Review).

## F. PROJECT RECORDS AND DOCUMENTS

Project or site specific QA documents and records generated as part of the IDEM Quality System (e.g. Monitoring Plans, SAPs, QAPjPs, StEPs, etc.) are used and stored in the various Program Offices within IDEM. Records and documents associated with a given project are the responsibility of the Branch Section that has primary responsibility for the project. Hard copies of site or project specific information such as sample field sheets, chain-of-custody records, laboratory notes, field notes, and instrument readings will be maintained by the responsible Program Office. These records provide support to the validity of the environmental data for making decisions.

Equipment acquired for each project is accounted for in an IDEM equipment inventory and identified via a state tag number. Program Branches or Sections maintain separate equipment inventories to control equipment replacement. Projects involving the generation of environmental data will include the QAPP and final report, which are stored together to allow a subsequent analyzer to understand the context of the data produced and the conclusions reached. Office Program QA staff are responsible for maintaining QA documents for a period specified in the appropriate IDEM Document Retention Schedule.

## G. ELECTRONIC DOCUMENT AND RECORD RETENTION

IDEM is currently restructuring the database systems and processes used to store information in order to create a more integrated cross-program information system (IDEM, April 1999, IDEM Information Management Plan). IDEM is also drafting new processes, policies, and standards to govern data management and storage (IDEM Data Information Manager Plan, 1999 draft). OLQ is also developing several tracking systems for tracking the work processes within the technical sections. The new data management and tracking processes are expected to be in place by December 2001.

Current practices for ensuring the quality of data stored in Agency databases are based on training of data entry personnel (e.g. OLQ, 2000, IRATS Manual; OLQ, 1999, OLQ Sampling Database Training Manual; OLQ, 1999, ULCERS User Manual), and checks built-in to the database applications to guide data entry. All of the Agency databases have designated administrators who oversee operation of the databases and ensure integrity of the records. IDEM's current data structure enables storage of basic facility information (CAATS, IRATS, SWIMS, ULCERS databases) and environmental monitoring data (OLQ Sampling Database). Facility information shared throughout the Agency is updated annually by sending questionnaires to regulated entities requesting current information such as facility name, address, and ownership information. The submitted information is checked against IDEM records and updated as needed within the Mailing/Label database.

Some of IDEM's information is also submitted to EPA for inclusion in EPA databases. This process is coordinated through the Facility Linking Application (FLA) Team in the Office of Planning and Assessment (OPA). The process for updating, training, and quality controls are documented in the Facility Data Reconciliation SOP (OPA, April 2000, Facility Data Reconciliation SOP).

Current workflow and document tracking processes were developed by individual managers. The current tracking processes are self-contained and are not shareable across the Agency. The new tracking systems will address this issue by December 2001.

## H. HARD COPY RECORDS RETENTION

In 1978, the Indiana General Assembly created the Indiana Commission on Public Records and assigned it the responsibility of records management for State Agencies. Accordingly, the records management division of the Commission on Public Records works with State Agencies to develop retention schedules governing the disposition of Agency records.

A retention schedule describes a discrete set of records and outlines its disposition, which allows researchers to determine the location and/or the existence of records dealing with a particular topic or issue. Consequently, retention schedules are key to understanding what records are produced by state government and where they are kept.

There are two types of retention schedules in use: a general retention schedule, which applies to all State Agencies and to the records they create; and Agency specific schedules, which apply only to particular agencies and the unique records they create. The general retention schedule is maintained at the Indiana Commission on Public Records Web site: <http://www.IN.gov/icpr/webfile/recman/grsindex.html>.

The Agency specific retention schedules for IDEM are maintained by the Indiana Commission on Public Records and may be accessed through the Web site database:  
[http://www.IN.gov/serv/icpr\\_retention](http://www.IN.gov/serv/icpr_retention).



# CHAPTER 6

## Computer Hardware and Software

**Purpose–** To document how the IDEM will ensure that computer hardware and software satisfies the organization’s requirements.

### I. COMPUTER HARDWARE/SOFTWARE REQUIREMENTS

IDEM’s Office of Information Technology (OIT) provides operational systems support, review, and counsel in the acquisition of hardware, as well as the purchasing and development of software to manage information. As conveyed throughout the Quality Management Plan, much of the data quality analysis and quality control work is outside OIT’s span of control.

Ensuring enterprise data integrity and usability requires IDEM to have adequate infrastructure and a comprehensive application development and application methodology. Tasked with numerous “administrative” activities, OIT’s work is essential to the success of IDEM’s information management objectives. Examples of these activities include:

- Ensuring network security and controlling access to program data sets
- Maintaining IDEM’s hardware infrastructure and capacity by establishing effective life cycle and replacement plans for computer hardware, as well as methods to evaluate and augment IDEM’s network communications
- Identifying and driving acquisition of components that lend themselves to real-time data acquisition and reporting
- Utilizing development tools and languages that provide the highest levels of insulation from operating systems and hardware configurations in order to easily accommodate their change
- Creating and maintaining an integrated data model for IDEM’s enterprise information
- Establishing standards for application development regarding development tools; data modeling; interoperability; scope of functionality; and documentation of both metadata and software usage
- Facilitating requests from media specific programs, ensuring that existing functionality is leveraged where possible and new software planning includes potential use by other offices

## A. DATA INTEGRATION/SOFTWARE DEVELOPMENT

Consistent with IDEM's One-Stop grant, the Agency produced the IDEM Information Management Plan (PLAN) in April 1999

(<http://www.in.gov/idem/infoplan/index.html>). In February 2000, the Agency established an Environmental Information Manager position to facilitate its activities toward completing the objectives established in the Plan and related IDEM priorities.

To achieve IDEM's goal of having a single tool and location for conveying information, the PLAN contemplated a number of workgroups addressing standards, priorities, and integration planning on a concurrent basis. This model proved to be cumbersome and teams frequently duplicated portions of another's work. The responsibilities of the separate groups were combined into a single group (with staff representing the media programs, operations, information technology, and planning) to deal with all the issues previously divided among three (3) separate teams. An executive oversight committee was also established with representatives from the Senior Management of the Agency to review the proposals, standards, and decisions of the CORE Team as required.

A primary focus of the CORE Data Integration Team is to establish a foundation of policies and standards to ensure that future development is well integrated with other data sets. This focus has yielded a draft policy for Agency-wide management of enterprise data. The policy is under review by management. The CORE Team sponsors expect approval to occur soon. Once approved, all Agency staff will follow the policy and all projects will be approved by the CORE Team. (When approved, the final draft of the policy will be available at: <http://www.in.gov/idem/opa/dataintegration>).

Additionally the CORE Team is developing "A Guide for Data Management," which is intended to provide a single location for any individual involved in the creation, manipulation, or storage of enterprise data with information necessary to perform their duties consistent with Agency policy and standards. The guide is also in a draft state at this point, with a final version planned by June, 2002. All Agency staff will follow the Guide. (When completely developed, the Guide will be available at: <http://www.in.gov/idem/opa/dataintegration>).

The document includes definitions of roles in Agency-wide and project specific data management projects. Also addressed in the guide is a methodology for project development, identification of minimum standards for new development, and a peer-review method of developing project approval to ensure quality development.

Since the CORE Team also provides approval for development projects, a dispute resolution or appeal process will also be structured to allow requesters an additional opportunity to request development work. Appeals will likely be heard by the CORE's Executive Oversight Committee, or a group from that committee. All projects are presented to the CORE Team by data program staff following a structured checklist of required components. (Available at: <http://www.in.gov/idem/opa/dataintegration>).

The standards component of the guide continues to grow as issues of an enterprise nature present themselves. Established standards include data definitions, development tool options, and application deployment platforms. Standards that are under development include electronic signaturing, electronic document retrieval, standards for geolocal data, digital data submittal, and storage formats for public records. Issues which have been identified and are to be standardized include: technical and user system documentation content; geographical information systems (GIS); and, quality assurance components of new application development projects. (Draft versions of all the above are available upon request).



## **B. HARDWARE PLANNING/INFRASTRUCTURE MAINTENANCE**

IDEM has utilized a number of additional resources in its efforts to develop a quality data management infrastructure. In 1996, the Agency contracted with Crowe-Chizek to perform a review of its information technology strategies, tools, and support. The report, Information Technology Report, (Nov 96), made a number of recommendations regarding procedures and technology. Recommendations were divided into short, mid, and long-term objectives.

Most of the short and mid-term issues have been addressed and IDEM is currently planning solutions for the long-term objectives. While many of the recommendations were not directly tied to available technology, some were, and to address the changes in hardware systems, IDEM contracted with KPMG Consulting to perform an infrastructure study in 2000. The results of the study were used to prepare a hardware budget for IDEM, which is currently pending before the Indiana General Assembly. The KPMG Consulting infrastructure study included some of the following issues that are being addressed in IDEM's hardware package request: security, remote access, and backup capabilities.

## **C. SYSTEMS/DATA SECURITY**

To protect IDEM's systems and data sets from potential loss and misuse from a variety of accidental and deliberated causes, IDEM uses the following security procedures and protocols:

- Network Operating Systems and applications use login and password controls
- The State's firewall security system is used to regulate in-going and out-going Internet activity
- The computer server room is physically secured for access by only critical IT personnel
- The computer server room has its own climate control and power supply backup systems to prevent data loss due to hardware failure
- Automated (weekly) tape backups are run on all networked servers. Backup tapes are stored according to current Office of Information Technology storage procedures to reduce the loss of data due to server drive failure
- Remote access to Agency networks is only available using Virtual Private Network (VPN) technology, which requires the issuance of a secure key card to any staff needing remote access. Remote access to the Agency's e-mail system is only available through dial-up to the Agency modem pool and via VPN.

## D. DATA ACCESS

IDEM is striving to choose system solutions that lend themselves to easy access to sources outside the Agency. IDEM tracks and participates in workgroup activities of Environmental Council Of States (ECOS), national organizations, and federal government groups addressing data standardization. Preservation of electronically captured data is driven by the Indiana Commission on Public Records (ICPR) rules and public records retention policies. The ICPR policies can be found at: <http://www.IN.gov/icpr>. Just as the rules apply to paper-based public documents, those items not covered by an existing reschedule must have one developed prior to disposal/destruction of the records is allowed.

## E. DATA AND INFORMATION

The responsibility for data quality lies with the program organization, regardless of whether the information is produced from or collected by computers. During application development, the requirements for data quality are captured by the requirement-gathering process along with other requirements, and the inspection and testing procedures ensure that the software delivered meets those requirements.

Ongoing quality control of data is maintained by one or more of the following means: 1) data is reviewed by someone other than the person who entered the data; 2) a summary page is produced for review by the regulated community; 3) data is electronically submitted. The programs check a statistically significant amount of entered data, which varies by program.

### **Specific Computer and Hardware and Software Component of the Lead-Based Paint Program:**

IDEM's Office of Information Technology (OIT) has established a program, which the Office of Air Quality subscribes to, and without which, the computer systems would not operate. Employee workstations are connected to the local area network file server through which OIT controls and administers software and data integrity.

The primary database program used for the Lead-Based Paint Program is a Paradox database. It permits the lead program to maintain accurate records for licensing, training course providers, and abatement notifications (including inspection and compliance activities).

Standard requirements, acquisitions, and installation of all computer hardware and software is determined and performed by OIT, and all employees have access to a computer that meets at least the minimum computer requirements set by OIT for both hardware and software standards. All employees have access to Agency computer training classes to learn the appropriate use of computer hardware and software.

Data entry is basically accomplished by entering the information using a method of just straight data entry into the computer Paradox database, which has few data fields. The data entry person basically cross-checks the data entered into the computer with the information submitted via the application/test/inspector forms. If an error should be made in typing, etc., it would be caught at a later date (i.e., reviewing the printed license for any typographical or omission errors prior to issuance of the license, etc.)

# CHAPTER 7

## Planning

**Purpose** – To document how individual data operations will be planned within IDEM to ensure that data or information collected are of the needed and expected quality for their desired use.

**Goal** – All IDEM activities related to the generation, analysis, and use of environmental data will be planned and documented.

---

### I. AGENCY PLANNING

Every two years, since 1996--(1997-1999), (1999-2001), (2001-2003), IDEM enters into a new agreement with the USEPA called our Environmental Performance Partnership Agreement (EnPPA). The EnPPA is a subsystem of the National Environmental Performance Partnership System (NEPPS). The NEPPS is the overriding federal program that was developed by EPA and the Environmental Council of States (ECOS) to focus environmental planning efforts for states.

The EnPPA is a tool designed to prioritize environmental activities, measure environmental success, improve communications, and lay the groundwork for taking a holistic approach to environmental protection.

The EnPPA outlines the overall Agency goals for the next two-year period and includes both Agency-wide goals as well as air, land, water, and pollution prevention specific goals. The EnPPA agreement cycle runs from July 1 (odd numbered year) to June 30 (next odd numbered year). Each January of the odd numbered years IDEM begins to plan for the upcoming two year priorities. Input is solicited both internally and externally to include: staff and managers at IDEM, USEPA, businesses, industry, citizens, environmental groups, and all other interested parties. The priorities are framed into a few overall Agency topics with goals/objectives and ultimately finalized as our overall EnPPA priorities for the next two years.

Each Agency-wide priority is lead by two Senior Managers. These Senior Managers keep track of the priority and report to the Director of Planning and Assessment. Progress is tracked throughout the two-year cycle by providing written quarterly updates to the co-leads for each priority. Each Office Director maintains the status of all Office objectives and reports these efforts quarterly to the Director of the Office of Planning and Assessment.

---

## II. PROJECT PLANNING

Overall, IDEM's priority project plans are documented and coordinated through the Environmental Performance Partnership Agreement (EnPPA) process described above. Projects involving the generation, acquisition, and use of environmental data are planned through the development of QAPPs, Monitoring Plans, Sampling and Analysis Plans, and OLQ Laboratory Quality Assurance Project Plans. These documents are developed by Project Managers, quality assurance staff, technical staff, and management using a systematic planning process, (e.g. IDEM OSHWM, June 1995, Organization and Management Improvement Plan for the Hazardous Waste Permitting Program; or the EPA DQO Process). QAPPs conform to requirements contained in "EPA Requirements for Quality Assurance Project Plans" (EPA QA/R-5, Final - March 2001), and use of the Data Quality Objectives (DQOs) are recommended as the systematic planning tool for developing the quality data criteria and an appropriate sampling design to both be used in project implementation.

Project planning will be coordinated among participating organizations including the principal data users, the decision-makers, the Project Manager, and all persons responsible for implementation. Employing this coordinated approach to planning and using a systematic planning process assures generating the type and quality of environmental data needed for their intended use.

**The following points are examples of issues/items that will be addressed, at a minimum, during project planning:**

- identification of all key personnel and a description of their roles and responsibilities (e.g., principal data users, decision-makers, project manager, all project personnel, stakeholders, scientific experts e.g., chemist, geologist, biologist, microbiologist, statistician, etc.)
- a description of the project goal, objectives, and the questions and issues to be addressed
- an identification of project schedule, resources (including budget), milestones, and any applicable requirements (e.g., regulatory and contractual requirements)
- an identification of the type of data needed and how the data will be used to support the project's objectives
- a determination of the quantity of data needed and specification of performance criteria for measuring quality
- a description of how, when, and where the data will be obtained (including existing data) and identification of any constraints on data collection
- a specification of needed QA and QC activities to assess the quality performance criteria (e.g., QC samples for both the field and laboratory, audits, technical assessments, performance evaluations, etc.)
- a description of how the acquired data will be analyzed (either in the field or the laboratory), evaluated (i.e., QA review, validation, verification), and assessed against its intended use and the quality performance criteria.

## A. Office of Air Quality Project Planning

Annual planning is conducted to identify and prioritize compliance activities. The Air Compliance Branch coordinates with a number of entities to identify and prioritize tasks, goals, and objectives. The coordination includes solicitation of activities from staff and managers within the Branch, Office, and Agency. Each of the Compliance Branches and Regional Offices within IDEM are consulted to identify cross-media priorities as well as regional or sector priorities. Bimonthly planning teleconferences are held with EPA Region 5 to discuss state, regional, and national priorities. The following documents are results of the planning process.

- IDEM Priorities
- OAQ Priorities
- Air Compliance Branch Strategic Plan
- Referral Policies

Much of the air quality monitoring conducted by IDEM, and the local agencies throughout the state, is to determine if the air quality is in compliance with the National Ambient Air Quality Standards (NAAQS), which are established by the United States Environmental Protection Agency. The OAQ, Air Monitoring Branch, periodically (normally annually) performs an evaluation of Indiana's Ambient Air Quality Monitoring Networks and makes recommendations for changes to USEPA.

The networks are divided into Status Areas by pollutant and the monitoring sites composing these status areas are listed in a 'Network Description by Status Area.' The documentation for each status area reviewed consists of a "Background" addressing the circumstances resulting in the need to modify or establish a network, and the "Recommendation" and/or "Action" which identifies the changes proposed and/or implemented by the Office of Air Quality, Air Monitoring Branch.

**The OAQ review consists of an overall evaluation of monitoring issues for the status areas including:**

- Pollutant health effects data
- Demographics – past, present, and future population changes
- Historical air quality data - ambient air data and emission inventory data
- Meteorological data – prevailing winds vs. receptor site locations
- Available resources
- Data requirements - sample frequency, data quality, etc.
- Public input - network review document content or format
- Federal Monitoring Requirements – number and type of monitors, emerging health concerns
- Emission Sources – existing or proposed sources which influence the receptor site, the application of source oriented or PSD monitoring

- Topography – clear pathway to receptor site
- Modeling data – pollutant maximum concentration areas

**Specific Planning Component for the Lead-Based Paint Program:**

Indiana's work practice standards have been set through rules by the Indiana Air Pollution Control Board, and have been closely modeled after the USEPA lead regulation, 40 CFR 745 (Lead; Requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities; Final Rule). IDEM follows the documented methodologies as taken from the USEPA and HUD guidance documents and will develop new standards in accordance with USEPA's standards, as they are published. (See CHAPTER 1, page 27 for a listing of the above referenced documents.)

It is also part of the Office of Air Quality planning policy for the Asbestos/Lead Section to be reviewed on a yearly basis. The Asbestos/Lead Section Chief reviews and evaluates the program goals and implementation process by looking at program tasks, assessing/reviewing program resources, personnel requirements and performance evaluations (which are done annually), and the priority of the program itself based on any change in existing laws, or on any new Federal or State statutes and rules.

If IDEM were to receive any Federal funding for specialized projects that involve environmental measurements of lead (not the usual continuing program grants), IDEM will internally write, review, and approve a QAPP.

On-site abatement inspections and compliance/enforcement activities are developed and implemented through normal enforcement and compliance policies with oversight by the Asbestos/Lead Section Chief.

Training course audits are conducted at least every three years or as necessary, based upon complaints, or potential problems associated with examinations.

Enforcement procedures outlined within IDEM's enforcement rules and policies will be adhered to when performing site inspections, investigations, record reviews, and audits. As new Lead-Based Paint Projects arise, they will be incorporated into the QMP through a series of Standard Operating Procedures (SOPs) that would be specific to the new project.

## **B. Office of Land Quality Project Planning**

Office-wide annual planning using Goals, Measures, and Milestones (GMMs) is conducted to determine which projects OLQ can undertake to further the Agency's priorities for the year. Once the Agency priorities are established, Office priorities are chosen and communicated to OLQ staff. OLQ staff at both the Branch and Section level under the leadership of their respective chiefs, use the Office priorities as a guide for developing Goals for the year. The Sections and Branches also develop Measures, which are the 'deliverables' or results of each project. Each Measure is also broken down into smaller Milestones, which are measures of success for the project. OLQ Branch Chiefs are responsible for assuring that the GMMs developed by the Sections and Branches are consistent with Office and Agency goals and priorities. The Assistant Commissioner and Deputy Assistant Commissioner hold quarterly meetings with each branch to discuss progress on the GMMs.

Project planning in OLQ depends on whether the project involves permit review, site investigation/remediation, or is an internal initiative. The general process for each case is presented below.

## **1. Permit-related**

Planning is devoted to completing all technical review needed for the issuance or denial of a permit application.

1. Permit Manager reviews the permit application and determines deadlines based on the receipt date of the application. Deadlines and milestones are chosen that will allow the permit application review to meet all of the legislated deadlines specified in 329 IAC 10.
2. Technical staff are chosen from each of the technical support sections (Science Services Branch Chemistry Services Section, Permits Branch Engineering, Permits Branch Geology) to create the technical team for the project.
3. The Permit Manager convenes meetings with the technical team to discuss issues and convey changes in deadlines as needed. Monthly updates on the progress of the review are generated from the Permits Tracking Database module in Solid Waste Information Management System (SWIMS).

## **2. Site Investigation/Remediation**

Planning is devoted to achieving an appropriate site investigation or remediation of an impacted area.

1. Project Manager or principal site investigator determines what kinds of technical review are needed for the project.
2. Project Manager or principal site investigator requests technical services from the applicable technical support sections (Science Services Branch: Chemistry Services Sections, Geological Services Section, and Applied Science Technologies Section). Section Chiefs from each of the technical support sections assign personnel to the project.
3. Project Manager or principal site investigator and the technical support staff determine or approve the scope of work and the data needed for the project.

## **3. Internal initiatives**

Internal initiatives are designed to improve existing OLQ processes, create new processes, address shortfalls, and/or develop guidance.

1. Land Advisory Group (LAG) identifies a need and convenes a workgroup to address the issue. The LAG also makes recommendations regarding the final product that the workgroup is expected to produce. One member of the LAG serves as the official sponsor of the workgroup and conveys information between the LAG and the workgroup.
2. The workgroup selects measures and milestones to determine their progress. Periodic meetings with the LAG help ensure that the workgroup's efforts are compatible with the LAG's intent for the project.



3. Workgroup determines what will be needed to complete the project and begins work.

## C. Office of Water Quality Project Planning

Some type of systematic planning for environmental data operations is required for and implemented by Office of Water Quality programs.

**Watershed Management Section 319:** Systematic planning is mandated for all projects and must be identified in a QAPP. This is done at the local level by the grant recipient and all project plans are reviewed and approved by the 319 Grant QA/QC Coordinator. Other appropriate signatures are obtained once the QAPP is approved.

**104(b)(3) and 205(j) Grant Programs and the EMPACT Grant:** Systematic planning is mandated for all projects and must be identified in a QAPP. This is done at the local level by the grant recipient and reviewed and approved by the 104(b)(3)/205(j) QA/QC Coordinator/Grant Project Manager. Other appropriate signatures are obtained once the QAPP is approved.

**TMDL:** The Assessment Branch requires project workplans to be prepared before sampling can begin. The workplan includes: background and purpose of the project, project goals, locations of sample sites, parameters to be measured, personnel requirements, estimated cost, QA/QC requirements, and sampling schedule. The workplan is reviewed and approved by an Office of Water Quality QA Program Manager, Section Chief, and Branch Chief.

**Ground Water Section:** Project planning is done formerly through development of program plans (e.g., Indiana's Wellhead Protection Program, approved by EPA April 7, 1997 and Indiana's Source Water Assessment Program, approved by EPA May 5, 2000); and through contract development and grant applications, which both require workplans to be submitted for approval.

---

## III. COMPONENTS OF PROJECT PLANNING PROCESS

IDEM will follow the following process for planning environmental data operations:

### A. Identification of Project Staff

The planning process will identify the project staff, including the designated Project Manager who will guide the planning activities. The designated Project Manager will identify all participants involved in or related to the planned activity. This includes end users of the results of the work to be performed, and suppliers or data generators who will collect environmental data and/or analyze and provide results.

The Project Manager will ensure participants understand roles and responsibilities of the planned activities. The Project Manager determines the types of technical review and support needed for the project. Project staff from the technical support sections are chosen by their immediate Program Managers based on the Program Manager's judgment of the staff members' areas of expertise and workload at the time of project assignment.



## **B. Identification of Data Users and Suppliers**

The planning process will identify both the users of the results of work performed and data suppliers that need to participate in the project. The planning process includes the identification of participants' roles in: planning, implementation, and assessment activities. Data users include IDEM Managers, IDEM environmental programs, EPA, regulated facilities, and other external groups. Data suppliers include regulated facilities, sampling groups, and analytical laboratories.

## **C. Project Goals and Objectives**

The planning process will include developing a description of the project goal, objectives, and questions and issues to be addressed by the project.

## **D. Schedule, Resources, and Constraints**

The planning process will include the identification of project schedule, resources (including budget), milestones, and any applicable requirements (e.g., regulatory and contractual requirements). The process will consider any cost and schedule constraints, which will be integrated into the project design.

## **E. Data Needs/Data Usage**

The planning process will include the identification of the type and quantity of data needed and how the data will be used to support the project's objectives. Data interpretation and analysis needs, such as the use of specific statistical methods, will be determined and specified in the design. DQOs often guide this process. Any needed reports to management regarding the status of work, interim results of work, and results of assessment activities will be identified and documented. Any restrictions on the use of any interim results will be identified and stated with the data in a manner that clearly defines the nature of the restriction and the specific data to which it applies. If the data are stored in magnetic media, the restrictions will be encoded with the data as well as reported in any accompanying documentation, to the extent practicable.

### **1. OLQ Data**

Data collected or submitted for any OLQ environmental project must meet the requirements of all IDEM data standards such as the Locational Data Standards and Electronic Data Deliverable OLQ, 2000, Locational Data Standards; IDEM, 2000, Electronic Data Deliverable Standards [draft]) and any requirements of the applicable regulatory programs.

## F. Performance Criteria

The planning process will include the specification of performance criteria for measuring quality. Data obtained from environmental data operations will be assessed, verified, and qualified according to their planned intended use. Data produced or collected must be traceable to the appropriate design. To the extent practicable, performance measures for environmental data operations should be quantified. The extent of quantification should reflect the expected technical capabilities of the measurement systems to be used and the intended use of the data. Criteria or measures should include: the objective for measurement data in terms of precision, accuracy, completeness, comparability, and representativeness; data quality assessments; validation/verification of results; documentation establishing desired results achieved; and conformance to regulatory requirements.

## G. QA/QC Activities

The planning process will include the specification of needed QA and QC activities to assess the quality performance criteria (e.g., QC samples for both the field and laboratory, audits, technical assessments, performance evaluations, etc.). Key variables that determine or directly affect the quality of results will be identified and controlled, as appropriate, according to the specifications determined during the planning or design process. The IDEM environmental data collection design process will ensure that data are traceable to the procedures (including revisions) used to produce the data and to the personnel generating or collecting the data. Data transfer, reduction, verification, and validation requirements must be determined and documented.

### 1. OAQ QA/QC Activities

Many examples of Office of Air Quality QA/QC activities are specifically listed in CHAPTER 1 and CHAPTER 2, which describe the applicable programs and the QA/QC staff responsible for implementing and evaluating QA/QC activities in the Office of Air Quality programs.

### 2. OLQ QA/QC Activities

QA/QC activities are standardized depending on the type of data used for the project. All monitoring and analytical data are reviewed by OLQ Chemistry Services Section to determine the quality of the data prior to its use in regulatory decision-making processes.

Locational data are reviewed by OLQ staff trained in GPS and traditional surveying techniques. Geological or hydrological data are reviewed by OLQ Geology staff for adequacy according to the appropriate regulatory requirements (OLQ, May 1996, Solid Waste Facility Hydrogeologic Study Requirements, Indiana Administrative Code, 329 IAC 10-15-4; OLQ, November 1988, Technical Guidance Document, Volume 1 - Requirements for Describing Unconsolidated Deposits; OLQ, 2000, RISC Technical Guide and User Guide).

### 3. OWQ QA/QC Activities

For surface water and ground water quality data, QA/QC activities are included in DQOs and QAPPs.

**Watershed Management Section 319:** DQOs are required to be completed. The guidelines for preparing DQOs are included in the guidance on preparing Quality Assurance Project Plans (QAPPs) for Section 319 Projects.

**104(b)(3) and 205(j) Grant Programs and the EMPACT Grant:** DQOs are required to be completed. The guidelines for preparing DQOs are included in EPA's "Content Requirements for Quality Assurance Project Plans" and a Watershed Management Section QAPP preparation guideline packet. The DQO 7-Step Process (EPA) is part of the guideline packet.

**TMDL:** DQOs are required to be completed. The guidelines for preparing DQOs are included in the "QAPP for IN Surface Water Quality Monitoring Programs."

## H. Data Collected by External Parties

IDEM obtains data from many sources, including external ones. External sources of data include regulated entities, contractors, trained volunteers, etc. The planning process will include a description of how, when, and where the data will be obtained (including existing data) and will identify any constraints on data collection.

### 1. OAQ Data from External Parties

To ensure that data are of the necessary quality, all external sources producing air quality monitoring data must prepare a Monitoring/QA Plan. The plan contains all the elements of a QAPP and is submitted prior to commencement of monitoring or analysis. The plans are reviewed for applicability and completeness based on monitoring and QA requirements of the IDEM OAQ Quality Assurance Manual, the CFR, and Federal guidance documents, and approved by the OAQ Air Monitoring Branch Quality Assurance Section Chief.

### 2. OPPTA Data from External Parties

All TRI data used by OPPTA are data collected from external sources. A computer database is used to track all Forms received by OPPTA. A file management system is in place to prevent internal loss of received forms. These forms are then managed by the process outlined in CHAPTER 5, "Documentation and Records" under OPPTA's Technical Operating Procedures on page 104.

### 3. OLQ Data from External Parties

The amount and type of site assessment and sampling data needed for the project is determined by the project technical staff which generally includes a chemist, engineer, and geologist from the OLQ Support Sections. Guidelines for determining the minimum amount of site-specific data needed are documented in several IDEM and non-IDEM guidance documents and regulations (e.g. OLQ, May 1996, Solid Waste Facility Hydrogeologic Study Requirements, Indiana Administrative Code, 329 IAC 10-15-4; OLQ, November 1988, Technical Guidance Document, Volume 1 - Requirements for Describing Unconsolidated Deposits; OLQ, 2000, RISC Technical Guide and User Guide). All data submitted to OLQ are reviewed for adequacy by the appropriate staff from the project's technical support staff. The reviewing staff ensure that the data submitted meets all applicable State and Federal quality requirements. If submitted data is not adequate, OLQ may require recollection or resubmittal of the data once the inadequacies of the data have been addressed.

For data collected and submitted by outside sources, IDEM is currently developing standards for the submittal of electronic data (OLQ, 2000, Electronic Data Deliverable Standard). The Office of Land Quality currently has data delivery standards for monitoring and locational data submitted to the solid and hazardous waste disposal programs (OLQ, October 1998, Office of Land Quality Digital Data Submittal Standard). The standard under development is expected to incorporate many aspects of the Electronic Data Deliverable (EDD) format developed by EPA Region 5 (EPA, September 2000, Electronic Data Deliverable [EDD]) and will address the data submittal needs of all OLQ programs.

### 4. OWQ Data from External Parties

The Office of Water Quality ensures that the collection of data by outside sources meets IDEM's data quality needs by project section. The following OWQ sections ensure data quality:

**Watershed Management Section 319:** These are defined in "Guidelines for Preparing QAPPs for Section 319 Projects," and in "Standards for QAPPs for Section 319 Nonpoint Source Projects." These will be filed with the 319 Project Grant QA/QC Coordinator and on the IDEM shared drive by Spring, 2001.

**104(b)(3) and 205(j) Grant Programs and the EMPACT Grant:** These are defined in "Guidelines for Preparing QAPPs for Section 319 Projects," and in "Standards for QAPPs for Section 319 Nonpoint Source Projects."

**TMDL:** Test data for samples that are collected or analyzed for the OWQ Assessment Branch by contract vendors must satisfy QA/QC requirements of the applicable Broad Agency Announcement (BAA). Each BAA from the Assessment Branch includes requirements for compliance to the "QAPP for IN Surface Water Quality Monitoring Programs."

**Ground Water Section:** Ground Water Quality Assurance Program Plan, May 1995, outlines specific QA/QC procedures contracted laboratories are to follow when submitting ground water sample data.

## I. Analysis, Evaluation, and Assessment of Data

The planning process will include a description of how the acquired data will be analyzed (either in the field or the laboratory), evaluated (i.e., QA review, verification, validation), and assessed against its intended use and the quality performance criteria.

### 1. OAQ Assessment of Data

All air quality monitoring projects in Indiana that collect environmental data must have an approved Monitoring/Quality Assurance Plan. Many areas of OAQ are involved in the determination of monitoring requirements and data objectives. Permit conditions, legal issues, area modeling, and current monitoring are all considered prior to development of the Monitoring/Quality Assurance Plan. In addition, a complete Network Evaluation is conducted approximately every two years. During the Network Evaluation the data obtained is compared to data objectives to ensure that the objectives are being met. The Network Evaluation results in a detailed report that includes a listing of all ambient air monitoring stations operated by state, local agencies, and industries in Indiana. Background information relating to monitoring purpose and history, along with maps and data summaries for the monitoring stations, and parameters monitored are included. Changes are proposed to the monitoring network in the Network Evaluation report to better meet the objectives or accomplish new objectives.

### 2. OPPTA's Assessment of Data

The focus of OPPTA's TRI quality assurance is on Section 5 and Section 8 of the Form Rs. Starting with the 1994 TRI, IDEM entered its own data and made follow-up contact with facilities that:

- made documented errors in their submitted TRI Form R reports
- reported "0", >30.0, or <0.3 for the chemicals production ratio
- reported a major increase/decrease for a single chemical total for releases and environmental wastes
- reported a chemical in previous year but not the next year or vice versa
- submitted report(s) in the previous year, but not the current

Additionally, OPPTA makes hundreds of phone calls and mails out hundreds of letters each year to quality assure the data. These contacts also provide an opportunity for one-on-one technical assistance to reporting facilities.

### **3. OLQ Assessment of Data**

Any project that involves the collection of environmental data, by IDEM or non-IDEM personnel, will be required to have an IDEM-approved Monitoring Plan, Sampling and Analysis Plan (SAP), and OLQ Quality Analysis Project Plan for Laboratory Analysis (QAPjP) prior to collection and analysis of any samples. Monitoring plans are reviewed and approved by staff from OLQ's Geology Sections, Permits Branch -- Geology Group, and Science Services Branch -- Geological Services. SAPs are reviewed and approved by staff from one of the Geology Sections and staff from the Science Services Branch -- Chemistry Services Section. QAPjPs are reviewed and approved by staff from the Science Services Branch -- Chemistry Services Section.

Locational data collected during the project must be attributed using the most current version of IDEM Method Accuracy Description Codes (MAD). IDEM personnel trained in GPS theory and implementation will review any GPS data collected for adequacy before the data is added to the Agency data systems or used for analysis. GIS data sets submitted by non-IDEM personnel must meet the criteria specified in the IDEM Locational Data Standard (Reference: OLQ, July 2000, IDEM Locational Data Standard [draft]). OLQ GPS personnel are available to consult with outside entities to determine the best locational tools and methods for a given environmental project.

### **4. OWQ Assessment of Data**

Any project that involves the collection of environmental samples, by OWQ personnel, will be required to have an approved sampling plan prior to collection and analysis of any samples. Sampling plans are reviewed and approved by staff from OWQ's Assessment Branch. Locational data collected as part of the sampling program must be attributed using the most current version of IDEM Method Accuracy Description (MAD) Codes as listed in the IDEM GPS Guide. OWQ personnel trained in GPS implementation will review any GPS data collected for adequacy before the data is added to the OWQ data systems or used for analysis. All data submitted to OWQ are reviewed for adequacy by QA/QC staff from the appropriate Section/Branch, based on QAPPs and Quality Assurance Project Plans. The reviewing staff ensure that the data submitted meets all applicable quality assurance requirements. If submitted data is not adequate, then additional sampling or resubmittal of the data once the inadequacies of the data have been addressed will be required.

## **J. Quality Assurance Project Plan (QAPP) Review and Approval**

IDEM will follow EPA "Requirements for Quality Assurance Project Plans" (QA/R-5, 2001) when developing, reviewing, approving, implementing, and revising a Quality Assurance Project Plan or equivalent planning document. QAPPs will be prepared by the Project Manager and reviewed and approved for implementation by the appropriate Program Manager or his/her designee before the planned work commences. The Program Manager's approval will be a management approval based on whether the activity meets budget and policy priorities.

## 1. OAQ QAPP Review and Approval

The responsible party in OAQ for reviewing and approving QAPPs for Ambient Air Quality Monitoring Program is the Air Monitoring Branch Quality Assurance Section Chief. This includes QAPPs submitted from external sources that collect air quality monitoring data in Indiana. External sources submit QAPPs in the form of a Monitoring/Quality Assurance Plan.

If a QAPP is required for a project not involving air monitoring, the OAQ Assistant Commissioner would designate a senior staff member or supervisor with approval authority.

## 2. OLQ QAPP Review and Approval

In OLQ, various technical positions are responsible for reviewing and approving QAPPs dependent upon the activities covered by the QAPP.

### **Site Investigation/Remediation projects:**

QAPPs are prepared by either the IDEM Project Manager, the IDEM external contractor-Project Manager, the Potentially Responsible Party (PRP), the EPA, or the DOD, depending on the site lead.

To ensure that the desired content and level of detail are achieved in a QAPP, the review and approval of a site or project specific QAPP includes the following individuals: a contractor Project Manager (if applicable), a contractor QA Project Officer and/or Chemist (if applicable), an OLQ Project Manager, an OLQ QA Project Officer (located in the OLQ Science Services Branch) and/or technical support staff from the Science Services Branch (Chemistry Services, Geological Services, Applied Science Technologies), the Laboratory QA Officer (if applicable), and by EPA or DOD representatives as required (i.e. Superfund, DERP, and NRDA).

Program specific QAPPs are reviewed and approved by the following individuals: an OLQ Project Manager, an OLQ Section Chief, an OLQ Branch Chief, an OLQ QA Project Officer (located in the Science Services Branch), the Laboratory QA Officer (if applicable), and EPA representatives as required (i.e. Site Assessment, Brownfields, and VRP).

Projects involving sample collection: Science Services Branch Chemistry Services staff review QAPPs associated with the collection or analysis of samples.

Projects involving locational data collection: Science Services Branch Applied Science Technologies GPS/GIS staff review QAPPs associated with the collection of locational data including GPS data collection, aerial photography, remote sensing, map interpolation, or address matching.

Projects involving database development, software development, Web publication, or data development: The Science Services Branch Technical Environmental Specialist (aka - OLQ Data Coordinator) reviews all QAPPs associated with database development, software development, Web publication or data development. The OLQ Data Coordinator role was developed to ensure consistency among OLQ data management projects and compatibility with Agency, State, and Federal data standards.



### 3. OWQ QAPP Review and Approval

In OWQ, various positions are responsible for reviewing and approving QAPPs.

**Watershed Management Section 319:** The QA/QC Grant Coordinator in the Watershed Management 319 Section has these responsibilities. However, the process to determine the amount and type of sampling is done at the local level according to the questions the grant recipients want to answer. The sampling terms are spelled out in the QAPP.

**104(b)(3) and 205(j) Grant Programs and the EMPACT Grant:** The QA/QC Coordinator/Grant Program Manager reviews and approves QAPPs. However, the process to determine the amount and type of sampling is done at the local level according to the questions the grant recipients want to answer. The sampling terms are spelled out in the QAPP.

**TMDL:** The QA Officer and personnel in the Toxicology and Chemistry Section review QA project plans for the Assessment Branch. The workplan is also reviewed and approved by the Program Manager, Section Chief, and Branch Chief within the Assessment Branch.

**Ground Water Section:** The Section's Laboratory Contract Manager reviews all data to ensure it meets the requirements established in the Ground Water Quality Assurance Program Plan.

## K. Evaluation and Qualification of Previously Collected Data

Data collected for other purposes or from other sources, including the application of any statistical methods, will be evaluated and qualified utilizing the above planning process before being applied to a new use.

## L. Health and Safety

The planning and design process will include detailed specifications for protection of health and safety of workers and of the public. Special requirements or precautions related to health and safety will be specified. This will include the identification of conditions adverse to health and safety under which suspension of work will be necessary.

The IDEM Compliance/Enforcement (C/E) Team is currently developing Agency-wide QA/QC policies and procedures for health and safety training and medical monitoring. The policies and procedures will be completed by June 30, 2001.

### 1. OAQ Health and Safety

Field and laboratory personnel are offered a wide range of health and safety training opportunities. There are no requirements to attend the training.



For Ambient Air Monitoring Stations a site inspection is conducted quarterly by the Office of Air Quality, Quality Assurance Section personnel and a summary report of site operational and safety problems is submitted to the Air Monitoring Section Chief and Branch Chief. The objectives of the report are to eliminate data loss due to operational problems and to maintain a safe work area for staff.

## **2. OLQ Health and Safety**

Field personnel must complete a standardized Health and Safety Plan (Reference: OLQ, June 2000, Compliance and Response Branch Site Specific Health and Safety Plan) documenting the hazards and procedures followed at potentially hazardous areas visited by IDEM personnel. All OLQ personnel responsible for fieldwork are provided with 40 hour OSHA HAZWOPER training and annual 8 hour HAZWOPER updates in accordance with 29 CFR 1910 120.

## **3. OWQ Health and Safety**

All OWQ personnel working in the field or within internal laboratory work areas have a series of available health and safety training opportunities including: defensive driving, general first aid, and CPR (cardio-pulmonary resuscitation). The field staff involved in sampling on or within stream corridors also have boating safety training and USFW Service electro shocking training. All OWQ personnel responsible for fieldwork, that may be exposed to potential hazardous substances or materials within their normal work activities, have the opportunity for 40 hour Occupational Safety and Health Administration (OSHA) HAZWOPER training, annual 8 hour HAZWOPER updates, and medical monitoring in accordance with 29 CFR 1910 120.



# CHAPTER 8

## Implementation of Work Processes

**Purpose** – To document how work processes will be implemented within the IDEM to ensure that data or information collected are of the needed and expected quality for their desired use.

**Goal** – Environmental programs will be performed so as to ensure that customer needs and requirements are met, and products and results are produced in a timely manner. Environmental programs conducted by or on behalf of the IDEM will be implemented in accordance with approved plans. Exceptions, deviations, and changes to these documents will be approved and documented prior to implementation.

**The IDEM ensures environmental work is performed according to plan through the following:**

- implementation of a formal quality assurance program
- program and project planning
- staff development and training
- ongoing oversight of performance

These processes/activities are important for ensuring that environmental data operations are performed according to plan, and also help ensure that the IDEM Quality System provides the framework for planning, implementing, documenting, and assessing work performed by the organization and for carrying out required QA and QC activities.

The bulleted processes/activities are implemented by all IDEM Program Offices (air, land, water, OPPTA, Regional Offices, and the Office of Enforcement) for all environmental data operations, no matter whether they involve data sampling, report writing, permitting, compliance, or enforcement activities, etc.

It is the responsibility of the Agency Program Managers (Assistant Commissioners, Office Directors, Branch Chiefs, or Section Chiefs) to ensure that these processes/activities are implemented within their respective Program Office. The Managers are thus responsible for ensuring that specific QA/QC requirements have been planned for and are being implemented by appropriately trained staff when performing work assignments. The Managers are also responsible for the ongoing oversight of performance to ensure employees are fulfilling their roles and responsibilities with regard to quality assurance activities.

The following paragraph identifies the Chapters within the QMP that describe in more detail how the above processes/activities are implemented within the IDEM Program Offices.

The Quality System implemented by the IDEM is described in CHAPTER 1, “Management and Organization” and CHAPTER 2, “Quality System Components” and elsewhere in this QMP. Staff development and training activities are described in CHAPTER 3, “Personnel Qualifications and Training” of the QMP, and the processes of procuring services are found in CHAPTER 4, “Procurement of Items and Services.” The overall programmatic control of documents relating to the generation, analysis, and use of environmental data are described in CHAPTER 5, “Documentation and Records,” while CHAPTER 6, “Hardware and Software” describes the infrastructure and application development/application methodologies used for computer security and electronic data management. CHAPTER 7, “Planning” describes the customer requirements, specifications, cost and schedule constraints, and the project planning processes within the Agency, while CHAPTER 8, “Implementation of Work Processes” details the Implementation of Work Processes. Assessment and response programs implemented by the IDEM, as well as how quality improvement will be achieved, are respectively described in CHAPTER 9, “Assessment and Response” and CHAPTER 10, “Quality Improvement”.

---

## **I. QMP IMPLEMENTATION**

### **A. QMP APPROVAL**

The IDEM Quality Management Plan was prepared according to the “EPA Requirements for Quality Management Plans” (EPA QA/R-2, Final-March, 2001) and will be reviewed and updated on an annual basis, with updates based on the findings of the review process.

The Office of Planning and Assessment coordinated the preparation of the IDEM QMP with the involvement and assistance of program management and program quality assurance staff from all Program Offices. EPA Region 5 also reviewed and commented on the IDEM QMP prior to its approval and implementation.

The IDEM QMP will be approved prior to implementation. Approval of the IDEM QMP will be documented by the signatures of the Commissioner, Deputy Commissioners, Assistant and Deputy Assistant Commissioners, the QMP Manager, and the IDEM QA Manager. EPA Region 5 will also approve of the QMP with signatures by the Interim Regional Administrator, Regional QA Manager, Director of Resources Management Division, Director of Air and Radiation Division, Director of the Superfund Division, Director of the Waste, Pesticides and Toxics Division, and the Director of the Water Division.

### **B. QMP REQUIREMENTS FOR CONTRACTORS AND REGULATED ENTITIES**

Contractors and regulated entities are bound by requirements delineated in the IDEM QMP, as well as to guidance documents of Program Offices, and other requirements to the extent that these pertain to the goals and objectives of their work.

## **C. DISTRIBUTION OF QUALITY MANAGEMENT PLAN**

The IDEM QA Manager will distribute copies of the approved Agency QMP to the Commissioner, Deputy Commissioners, Assistant and Deputy Assistant Commissioners, and Program Office quality assurance staff, as well as to EPA Region 5 members listed in the previous section. Quality assurance staff will distribute copies of the IDEM QMP to IDEM personnel and contractors whose work requires knowledge of and adherence to the requirements and specifications contained in the document.

## **D. MAINTENANCE OF THE QUALITY MANAGEMENT PLAN**

The IDEM QA Manager will maintain the current Quality Management Plan and track distribution of approved copies of the document.

## **E. QMP REVISION**

The Quality Management Plan will be reissued annually or revised and reissued within 120 days of significant changes, whichever is sooner.

## **F. EXPEDITED CHANGES TO THE QMP**

Expedited changes to IDEM Quality Management Plan may be approved to reflect changes in organization, mission, and key personnel, address deficiencies and non-conformities, improve operational efficiency, or accommodate unique and unusual circumstances. Expedited changes to the IDEM QMP are effective immediately upon approval of the IDEM QA Manager.

---

# **II. IMPLEMENTATION OF QAPPS**

## **A. QAPP PREPARATION AND REVIEW**

QAPPs document how environmental data operations are organized, planned, implemented, and assessed. They also define in detail how specific quality assurance and quality control activities will be applied. Except under very limited circumstances and with prior approval, none of the environmental work covered by a QAPP may be initiated until the QAPP is reviewed, approved, and distributed to project personnel.

Quality Assurance Project Plans will be prepared for projects involving environmental work (as defined in "EPA Requirements for Quality Assurance Project Plans" (QA/R-5, Final-March 2001) as governed by this QMP. The QAPP requirements will be applied, as needed, to Agency environmental programs that acquire, generate, or compile data on behalf of, or funded by EPA.

QAPPs will be prepared with the involvement and assistance of program management and program quality assurance staff from all participating organizations, using a systematic planning process, such as the Data Quality Objectives Process ("Guidance for the Data Quality Objectives Process," (QA/G-4, Final–August, 2000), or a comparable alternative. All participating organizations, including EPA when applicable, will be afforded an opportunity to review and comment on proposed QAPPs prior to their approval and implementation. Unless other arrangements have been agreed upon, reviewers should be given a minimum of 30 days in which to review QAPPs. Review comments, responses to comments, and revisions will be documented and provided to reviewers.

## B. QAPP APPROVAL

QAPPs will be approved prior to the initiation of environmental work activities. At a minimum, QAPP approvals will be documented by the signatures specified in Table 5 (below). Assistant Commissioners, Section Chiefs, Grant Coordinators, and the IDEM QA Manager may delegate QAPP approval authority. The Lead Program or other Program Section Chiefs, Grant Coordinators, Program or Project Managers, and other participating quality assurance specialists or the IDEM QA Manager may also require additional approval signatures on QAPPs.

**Table 5: Office QAPP Required Approval Signatures**

Program Office	Required Approval Signatures
Office of Air Quality: currently, only the Air Monitoring Program produces QAPPs	Air Monitoring Section Chief, Air Toxics Section Chief, Quality Assurance Section Chief, Air Monitoring Branch Chief, and Assistant Commissioner
Office of Water Quality	QA/QC Project/Grant Coordinator for Section, Section Chief, and Branch Chief
Office of Land Quality	Project Manager for Section, Section Chief, and Branch Chief, and EPA representatives, as required, for Superfund, DERP, NRDA, and RCRA Corrective Action Projects
Office of Pollution Prevention and Technical Assistance	N/A

## C. QAPP REQUIREMENTS FOR CONTRACTORS

Environmental work conducted jointly by IDEM and contractors, or conducted solely by IDEM contractors will be planned and documented in QAPPs. QAPPs involving contractors will be prepared, reviewed, and approved as described above. (Unless IDEM has delegated authority and oversight of subcontractors, these requirements also apply to environmental work conducted by subcontractors.) Contractors will be bound by requirements delineated in QAPPs to the extent these requirements pertain to the goals and objectives of their work. Contractor commitment to requirements contained in QAPPs will be documented. This documentation may take the form of QAPP approval or concurrence signatures, or QAPP distribution receipt signatures.

Unless otherwise specified in written agreements between EPA Region 5 and IDEM, formal EPA Region 5 approval of QAPPs (i.e., approval signatures) is not required for environmental work conducted solely by IDEM contractors.

## **D. QAPP DISTRIBUTION**

Project Managers, or Designees, will distribute copies of QAPPs to the people associated with the project and the IDEM QA Manager. For Office-wide QAPPs, distribution is to Branch/Section Chiefs, who make them available to their staffs. For project QAPPs, distribution is to Project Manager, all chemists, and any external parties associated with the project (i.e. contractors, regulated entities). For QAPPs generated by external parties, QAPPs are distributed to project staff and the project chemist. At a minimum, this distribution will include participating organizations (Offices, Branches, Sections, and Regional Offices) within IDEM, participating contractors, and EPA Region 5. IDEM staff and contractor representatives will ensure copies of QAPPs are made available to personnel performing environmental activities governed by these documents.

## **E. QAPP MAINTENANCE**

Program Office quality assurance staff maintain QAPPs applicable to their respective programs, and maintain approved copies of these documents. Unless a longer retention period is specified in a grant, record retention schedule, or other governing document, quality assurance staff, or designees, will retain QAPPs for three years from the end of the project period. QAPPs are maintained in project public files, located in the Central File Room.

## **F. QAPP REVISIONS**

Until environmental work is completed, QAPPs will be revised as necessary and reissued annually on their anniversary date or revised and reissued within 120 days of significant changes, whichever is sooner. The last approved versions of QAPPs will remain in effect until revised versions have been approved. If the entire QAPP is current, valid, and accurately reflects the project goals and the organization's policy, the annual re-issuance may be done by a certification that the plan is current, and will include a copy of new, signed approval pages for the QAPP.

## G. EXPEDITED CHANGES TO QAPPs

Expedited changes to QAPPs may be approved to reflect changes in project organization, tasks, schedules, objectives, and methods, address deficiencies and non-conformities, improve operational efficiency, and accommodate unique or unanticipated circumstances. Expedited changes are effective immediately upon approval by the Program Office quality assurance staff person and the Project Manager or their Designee. Expedited changes to QAPPs and the reasons for the changes will be documented. Changes to QAPPs will be distributed to all individuals and organizations contained in the QAPP distribution list. Expedited changes will be reviewed, approved, and incorporated into a revised QAPP during the annual revision process or within 120 days of the initial approval in cases of significant changes.

## H. OVERSIGHT OF QAPPs

The IDEM QA Manager will monitor and track the status of QAPPs and will report to the Director of the Office of Planning and Assessment within 15 days of any environmental data operations that do not have current, approved QAPPs.

### **Specific Implementation of Work Processes Component for the Lead-Based Paint Program:**

IDEM management ensures that all work processes are performed according to rules and policy through staff training, monitoring of internally generated reports and inspection documentation, and other supervisory activities. Standard Operating Procedures (SOPs), as included within Element 1 (see CHAPTER 1, page 27), will be adhered to by lead-based paint staff in all four areas: licensing, training course providers, work practice standards, and compliance and enforcement.

Periodic training and audits of training providers and licensed personnel will ensure that the elements of this program are being implemented through the use of meetings, on-site visits, conference calls, record review, or other necessary means.

Training course audits are conducted at least every three years or as required, based upon complaints, or potential problems associated with examinations.

On-site abatement inspections and compliance/enforcement activities are developed and implemented through normal enforcement and compliance policies with oversight by the Asbestos/Lead Section Chief.

Enforcement procedures outlined within IDEM's enforcement rules and policies will be adhered to when performing site inspections, investigations, record reviews and audits.

The Asbestos/Lead Program Section Chief ensures that work practice standards and SOPs are followed and adhered to by all employees within the Asbestos/Lead Program Section. It is an ongoing process to document all aspects of an employee's performance, as well as in their annual performance evaluation.

As new Lead-Based Paint Projects/activities arise (due to changes in statutes, etc), they will be incorporated into the QMP through a series of Standard Operating Procedures (SOPs) that would be specific to the new project/activity.



# CHAPTER 9

## Assessment and Response

**Purpose** – To document how IDEM will determine the suitability and effectiveness of the implemented Quality System and the quality performance of the environmental programs to which the Quality System applies.

**Goal** – An assessment and response program designed to measure the effectiveness of the IDEM Quality System will be developed and implemented. Assessment results will be reported to appropriate management and other personnel for review and action as necessary. Follow-up actions will be taken where appropriate.

**Summary** – This Chapter of the QMP describes how IDEM will assess the effectiveness of its Quality System. IDEM will use a variety of internal management and technical reviews, performance evaluations, and audits to make sure that the procedures in this QMP are implemented successfully.

Chapter 9 also describes IDEM's commitment to using the results of these evaluations to make any necessary operational adjustments to IDEM's data collection and analytical procedures, as well as to the Quality System itself.

---

### I. QUALITY SYSTEM ASSESSMENT AND REVIEW

IDEM will assess the adequacy of its Quality System at least annually, including a review of the Quality Management Plan. The QMP will be revised or updated when any condition requiring the revision of an approved QMP is met as listed in the EPA Requirements for Quality Management Plans (QA/R-2, Final-March 2001).

**Examples of conditions requiring QMP revision include:**

- expiration of the five-year life span of the QMP
- major changes in missions and responsibilities, such as changes in the delegation status of a program
- reorganization of existing functions that affect programs covered by the QMP
- assessment findings requiring corrective actions and response

The IDEM QA Manager is responsible for coordinating this assessment, arranging for appropriate personnel to assist with the review, and for incorporating any recommended changes into the document. Minor changes in the QMP will be reported to EPA Region 5. Any major changes may require a formal resubmittal of the QMP to EPA Region 5.

It is the Agency's intent that the "process" for assessing IDEM's Quality Management System is developed and implemented over the next few years; and that all Indianapolis based core programs, as well as the Regional Offices, will be included in planning, developing, and implementing the QMP assessment process.

Some assessment systems are currently in place in various programs, but a “standardized, Agency-wide” approach to assess the quality of environmental data operations is, in reality, only a goal at this time. The timeline for developing and implementing an Agency-wide assessment process will begin once the Quality Management Plan is officially approved by EPA Region 5.

A team (the Quality Assurance Team) comprised of Senior Management, Program QA/QC staff, the IDEM Quality Management Plan Manager (Director of the Office of Planning and Assessment), and the IDEM Quality Assurance Manager will plan and develop the assessment process, and determine the specific tools to be used, and the order of program assessment. The initial planning meetings will occur within six (6) to nine (9) months after QMP approval.

Once the assessment process is developed, implementation will begin and then continues as an ongoing Agency process. It is expected a four (4) to five (5) year cycle will be required to assess all applicable Agency programs.

Assessments are a learning process intended to increase the users’ understanding of the program or system being assessed, and to provide a basis for improving such programs or systems. Assessments of environmental programs covered by this QMP will be planned, scheduled, and periodically conducted, and their results evaluated to measure the effectiveness of the IDEM QMP.

**Assessments may be used to assist in determining:**

- Adequacy - whether an item or activity meets requirements
- Compliance - whether an item or activity is being implemented as specified
- Readiness - whether the status of an item or activity warrants start-up or continued use of a facility, process or activity
- Effectiveness - whether an item or activity achieves desired results
- Verification - whether corrective action has been planned, initiated, or completed

## **A. ASSESSMENT PLANNING**

Assessment plans and schedules will take into account such factors as public health and safety, budgets, results of prior assessments, grant/program coverage and continuity, complexity of work activities, management criteria, and existing commitments (e.g., QAPPs). Scheduled assessments may be supplemented by unscheduled or unannounced assessments requested by Senior Management Leadership Team, Program Managers, or the IDEM QA Manager.

## **B. ASSESSMENT TOOLS**

IDEM will employ assessment tools designed to provide an increased understanding of the components of its Quality System, and to provide a basis for improving the system. The following assessment tools may be utilized for determining the effectiveness of the QA components described in the QMP.

## 1. Quality Systems Audits

Internal audits are one of the principal tools for determining the effectiveness of the QA components described in the QMP. Audits of QA programs and activities will be conducted in accordance with established or other appropriate protocols.

IDEM will conduct internal assessments of individual programs' quality assurance practices as described in this QMP. All major data generating programs within the IDEM will be reviewed not less than once every four years. These Offices include: Air Quality, Water Quality, Land Quality, and Pollution Prevention and Technical Assistance.

These audits will be authorized by the Director of the Office of Planning and Assessment (QMP Manager), and will be coordinated by the IDEM QA Manager. The results of the evaluations will be transmitted to the relevant Assistant Commissioner and Program QA staff in written form from the Director of the Office of Planning and Assessment. Program-specific recommendations will be provided too, for incorporation into the quality assurance practices of the programs.

**The audits are intended to accomplish the following objectives:**

- identify any data quality problems
- identify benchmark practices that could be used in other IDEM programs
- propose recommendations for resolving quality problems
- confirm implementation and effectiveness of any recommended corrective actions

The audited program will normally have 30 days to prepare a written response to the audit memorandum. The response should include an evaluation of the Review Committee's findings and recommendations. If the IDEM QA Manager recommends corrective actions, the audited Office should address those recommendations and include a schedule for making any appropriate changes in its quality assurance procedures.

These audits will be used by Senior Managers to gauge the effectiveness of the IDEM QMP and of individual Program Offices approaches to data quality management.

## 2. Management Systems Reviews

A Management Systems Review (MSRs) is an independent assessment of an organization's QA management practices. MSRs address the effectiveness of management controls in achieving and assuring data quality, the adequacy of resources and personnel devoted to QA functions, the effectiveness of training and assessments, and the applicability of data quality requirements. MSRs can identify significant QA concerns and areas of needed improvement, but also point out noteworthy accomplishments.

Organizational MSRs are generally conducted by an external party and focus on the organization's adherence to its approved QMP. It is anticipated that a MSR will be conducted for the IDEM Quality System not more than once every five years. The organizational MSR will focus on the overall structure and procedures for accomplishing the QA program.

Program MSRs are generally performed by an internal review team and focus on implementation of QA practices within a single Program Office. These MSRs will typically be performed by a Review Committee authorized by the Deputy Commissioner for Environmental Operations. The Review Committee will include the IDEM QA Manager and those with knowledge of the IDEM Program Office under review, and may include staff members and Program Managers.

Most MSRs will examine the following elements:

- an assessment of the overall effectiveness of the QA management system, as measured by its adherence to the approved QMP
- procedures for developing Data Quality Objectives (DQOs)
- procedures for developing and approving QAPPs
- the effectiveness of existing QAPP guidance and QAPPs
- procedures for developing and approving SOPs
- procedures, criteria, and schedules for conducting audits
- tracking systems for assuring that the quality system is operating and that corrective actions disclosed by audits have been taken
- responsibilities and authorities of various Managers and QA staff for implementing the QA program
- the degree of management support
- the level of financial and other resources committed to implementing the Quality System

IDEM may also make occasional use of independent, outside reviews of its quality assurance practices. When electing to use an outside source, the IDEM QA Manager will make arrangements for such a review by selecting, in conjunction with the appropriate program QA staff, an appropriate team of qualified reviewers from other State Agencies, private industry or consultants, or universities. The goals and objectives of this type of review are the same as if the assessment were conducted internally.

### **3. Peer Reviews**

Reports containing environmental data or reporting the results of environmental data operations may be independently reviewed and approved before publication and formal distribution. The reports and method(s) of review, approval, and distribution will be identified in the appropriate QAPP.

## 4. Technical Reviews

A Technical Review is a documented critical review of work that has been performed. The review is accomplished by one or more qualified reviewers who are independent of those who performed the work, but are collectively equivalent in technical expertise to those who performed the original work. Technical Reviews may include technical staff from the same Program Office, but who did not perform the work being reviewed. The review is an in-depth analysis and evaluation of documents, activities, material, data, or items that require technical verification or validation for applicability, correctness, adequacy, completeness, and assurance that established requirements are satisfied. EPA's "Guidance on Technical Audits and Related Assessments" (EPA QA/G-7) is available as guidance for performing technical audits or reviews.

## 5. Performance Evaluations

Performance Evaluations are conducted to assess the ability of a laboratory or field measurement system to obtain reliable data. Performance Evaluations will normally be accomplished at laboratories providing analytical services directly or indirectly for IDEM. The evaluation consists of providing a reference, or "blind", sample to the laboratory for analysis. This Performance Evaluation sample contains known concentrations of chemical constituents, or pollutants of interest, and will normally be in the appropriate media (e.g., soil, water, air). The analytical results obtained by the laboratory are compared to the known concentrations of the specific parameters contained in the Performance Evaluation sample(s) as a means of determining if the laboratory demonstrated its ability to properly identify and quantify pollutants within established or calculated control limits. Performance Evaluations will be scheduled at a frequency specified by program requirements, or on an as-needed basis depending on the laboratory and program involved.

Some national programs, such as the Public Water Supply Supervision and National Pollutant Discharge Elimination System (NPDES) programs, have regularly scheduled Performance Evaluations studies in which participation is mandatory for designated laboratories. For the Public Water Supply Supervision Program, Performance Evaluations are required twice a year for all laboratories that wish to be certified for drinking water analysis. For further information on the Public Water Supply Supervision laboratory certification program, see the Indiana Public Water Supply Systems Compliance and Enforcement Strategy, FFY 2001, the Indiana Drinking Water Laboratory Certification Program (Chemistry), 2000, and the Indiana Drinking Water Laboratory Certification Program (Microbiology), 1994.

The results of Performance Evaluations provide a means for assessing overall data integrity, and may be used as the criteria for selecting candidates for on-site evaluations.

## 6. Data Quality Assessments

Data Quality Assessment (DQAs) refers to the process used to determine whether the quality of a given data set is adequate for its intended use, using appropriate statistical tools. DQAs can be performed on all or selected projects involving data collection. The purpose of this type of evaluation is to determine whether the data collected are acceptable to the decision-maker or user for their intended use, since the data are ultimately meaningful only in this context.

A DQA involves a statistical comparison of the collected data with the Data Quality Objectives (DQOs) for the project. The intended use of the data is established by the project's developed Data Quality Objectives. This evaluation and comparison will result in the determination that the data are usable or not usable for their intended purposes. DQAs can be performed on all or only selected projects involving data collection. Again, the purpose of this type of evaluation is to determine whether the data collected are acceptable to the decision-maker/user of the data for their intended use.

CHAPTER 2, "Quality System Components" provides a description of the components/steps of DQAs, and describes the overall data life cycle. CHAPTER 7, "Planning" notes that Data Quality Assessment already occurs in all IDEM Program Offices with descriptions given for these processes for air, land, water, and the Office of Pollution Prevention and Technical Assistance.

Because planning, implementation, and assessment processes are ongoing within the Agency Offices, the exact timeline for Data Quality Assessment is determined by the program/project data life cycle. IDEM's DQA process will be more fully evaluated when the process for assessing IDEM's Quality System is developed and implemented over the next few months to years.

Guidance for this procedure is provided in "Guidance for Data Quality Assessment" (EPA QA/G-9, Final-July 2000).

## 7. Technical Systems Audits

Technical Systems Audits (TSAs) are conducted to assess the sampling and analytical quality control procedures used to generate environmental data. IDEM will use Technical Systems Audits to evaluate laboratory and field procedures used by IDEM personnel, contractors, and grantees. Technical Systems Audits may entail a comprehensive, on-site evaluation of facilities, equipment calibration, personnel qualifications and training, record keeping procedures, data validation, data management, and reporting of field and laboratory activities. Both laboratory and field Technical Systems Audits are performed.

Laboratory Technical Systems Audits will be conducted for IDEM laboratories and for contract laboratories that prepare environmental data for use in EPA-sponsored programs. TSAs will also be conducted for other State Agency laboratories that perform sample analysis under Interagency Agreements with IDEM. The primary goals of these audits will be to review the laboratory organization, operations and capabilities; determine the reliability of data; and note corrective action for any apparent deficiencies. Auditors for TSAs will be selected by the IDEM QA Manager based on their technical proficiency in the subject area, and will be responsible for planning and conducting the audit, and reporting the findings to the laboratory manager.



Oversight of field operations is an important part of the quality assurance process, and IDEM will conduct Field Technical Systems Audits of field sampling activities, both for its own field operations, and for those of contractors and local agencies that collect samples for programs sponsored by EPA. The specific frequency and procedures for conducting field TSAs within specific Program Offices will be determined as the IDEM assessment process is developed over the next six (6) to nine (9) months, and then implemented over the next four (4) to five (5) years. The IDEM QA Manager will determine the adequacy of field TSAs when the Quality Management System and Plan are reviewed annually. The review process will also determine the adequacy of any Management Systems Reviews or other assessment tools.

## C. RESPONSES AND CORRECTIVE ACTIONS

Responses to adverse conclusions from the findings and recommendations of assessments will be made in a timely manner. Conditions needing corrective action will be identified and the deficiency and recommended corrective action(s) will be communicated to the Program/Project Manager for the environmental program. This will occur during the annual QA Assessment Meeting, with the QMP Manager, the IDEM QA Manager, Program/Project Managers, or other designated QA staff.

The environmental program needing corrective actions will provide an appropriate response detailing corrective actions, both short-term and long-term, within the time frame specified at the meeting (will vary depending on the scope of the corrective action). Follow-up verification of corrective actions will be conducted and documented to confirm the implementation and effectiveness of the response action. Annual QA meeting attendees will be notified in writing of the results of the verification activities.

The IDEM QA Manager will monitor the timeliness of corrective actions to ensure that the responses to corrective action are completed within specified time frames. The IDEM QA Manager will provide notification to the appropriate Program Office Assistant Commissioner when responses are overdue.

### **Specific Assessment and Response Component of the Lead-Based Paint Program:**

The IDEM management will assess the adequacy and effectiveness of the Lead-Based Paint Program by evaluating the indicators of quality outlined with Element 2 (CHAPTER 2, page 65). Lead-based paint training providers will be assessed for inadequacies in their training programs and hands-on activities. Abatement projects will be assessed for their notification submittals and compliance with work practice standards. Individuals and contractors will be assessed for 'accurate and true' application submittals, record keeping requirements, and compliance with work practice standards. Third-party examinations administered by the State are the exams developed and approved by the USEPA, and will be periodically updated as determined by the USEPA.

All proposed changes or corrective measures will be discussed to ensure that suitable and effective changes are implemented.

It is part of the planning policy (as noted in CHAPTER 7, page 118) for the OAQ Asbestos/Lead Section to be reviewed on a yearly basis. The Asbestos/Lead Section Chief reviews and evaluates the program goals and implementation process by looking at program tasks, assessing/reviewing program resources, personnel requirements and employee performance evaluations (which are done annually), and the priority of the program itself based on any change in existing laws, or on any new Federal or State statutes and rules.

---

## **II. ANNUAL ASSESSMENT REPORTING**

### **A. REPORTING FROM PROGRAMS**

Each fiscal year, Program quality assurance staff will prepare written assessment plans for their programs. Program quality assurance staff will consult with the IDEM Quality Assurance Manager, as well as Grant Coordinators, Project Managers, and other staff when necessary in developing these plans.

During the annual program planning process, the IDEM QA Manager will develop, in coordination with the responsible Program Managers and Program quality assurance staff, an Agency Annual Work Plan. The Annual Work Plan will identify those program-level activities needing to be evaluated and the type of assessment tool(s) to be utilized. The draft Agency Annual Work Plan is to be forwarded to the Region 5 QA Manager each year. The Annual Work Plan will be developed and approved as part of the Environmental Performance Partnership Agreement (EnPPA).

### **B. REPORTING TO THE USEPA**

Program Managers will report quality-related assessments and assessment results to the IDEM Quality Assurance Manager. As a part of the EnPPA, the IDEM QA Manager will report quality-related assessments and assessment results affecting the Agency Quality System to the Commissioner, Deputy Commissioners, Assistant Commissioners, and the Director of the Office of Planning and Assessment.

Pursuant to the 2001-2003 EnPPA, Senior Leadership Team from IDEM and USEPA Region 5 will hold a quaterly Partnership Meeting. As a part of this meeting, quality assurance staff from IDEM and EPA Region 5 will meet to:

- assess IDEM and EPA Region 5 quality assurance activities
- analyze current quality assurance program strengths and areas for improvement
- identify emerging issues and trends
- suggest any specific actions, approaches or suggestions for IDEM and EPA Region 5 to improve quality assurance

A self-assessment for the EnPPA, and therefore the QMP, will serve as IDEM's quality assurance report for the prior state fiscal year.



**Table 6 : Assessment and Reporting Timeframes**

<b>Calendar Year</b>	<b>Conference Calls</b>	<b>Partnership Meetings</b>	<b>Self Assessment</b>	<b>Indiana's Annual State of the Environment Report</b>
July - September, 2001				
October - December, 2001	X	X	*	
January - March, 2002	X	X		
April- June, 2002	X	X		X
July-September, 2002	X	X	**	
October - December, 2002	X	X		
January - March, 2003	X	X		
April- June 2003	X	X		X
July - September, 2003			***	

\* Final Self-Assessments for 1999-2001 Environmental Performance Partnership Agreement.

\*\* Mid-Term Self-Assessment for 2001-2003 Environmental Performance Partnership Agreement.

\*\*\* Final Self-Assessments for 2001-2003 Environmental Performance Partnership Agreement.



# CHAPTER 10

## Quality Improvement

**Purpose** – To document how IDEM will improve its Quality System.

**Goal** – Quality System deficiencies will be prevented wherever possible. Identified deficiencies will be documented and corrected in a timely manner. Corrective actions will be verified to ensure timely and effective implementation. Efforts will be made to improve the Quality System continually.

---

### I. QUALITY IMPROVEMENT

#### A. QUALITY IMPROVEMENT RESPONSIBILITIES

The systems, documents, and tools described in preceding sections summarize the approach taken by IDEM to plan, organize, implement, monitor, and assess the Quality System for Agency environmental data operations. IDEM management and staff, at all levels, are responsible for identifying, planning, implementing, and evaluating the effectiveness of quality improvement activities. Management and staff are responsible for ensuring that conditions adverse to quality are:

- prevented
- identified promptly including a determination of the nature and extent of the problem
- corrected as soon as practical, including implementing appropriate corrective actions and actions to prevent reoccurrence
- documented for all corrective actions
- tracked to closure

Established reporting procedures will be implemented to communicate about the prevention, detection, and correction of problems that adversely affect quality during all phases of technical and management activities. When problems are found to be significant, the relationship between cause and effect and the root causes will be determined. The root causes will be determined before permanent preventative measures are planned and implemented. Appropriate actions will be planned, documented, and implemented in response to findings, and in a timely manner.

Project Managers will ensure that all activities related to collection, analyses, and use of environmental data are: controlled for importance of the project and the intended use of the project results; implemented using appropriate quality assurance project plans or standard operating procedures; and that procedures are adequate to ensure the quality of the results. Project Managers and their Program Managers are responsible for reviewing existing performance, procedures, and processes as outlined in previous chapters of this document and to identify opportunities for quality improvement.

Assistant Commissioners and Office Directors are responsible for reviewing existing performance of environmental programs within their respective Program Offices to identify opportunities for quality improvement.

The IDEM QA Manager is responsible, in cooperation with the IDEM Quality Assurance Team, for coordinating and evaluating Agency-wide quality improvement activities.

The Commissioner, through the Deputy Commissioners, will assure that an appropriate level of financial and other resources are committed to implementing the Quality System. The Quality Assurance Team (currently comprised of the QMP Manager, the IDEM QA Manager, and the QMP Office Program Area Contacts), and other QA/QC staff will work with the Deputy Commissioner of Environmental Results at the beginning of each fiscal year to maintain quality assurance objectives.

The Deputy Commissioners, especially Deputy Commissioner of Environmental Results, also have the overall responsibility for making necessary operational adjustments to IDEM's data collection and analytical procedures, as well as to the Quality System itself.

**Specific Quality Improvement Component of the Lead-Based Paint Program:**

IDEM's Office of Air Quality Asbestos/Lead Section will maintain an ongoing process of planning/developing, implementing, and assessing the Lead-Based Paint Program. Any changes or modifications in Federal or State statutes, rules, policies and procedures, with regard to minimum lead-based paint licensing and training standards, as well as work practice standards, will be implemented in a timely manner by the Asbestos/Lead Section Chief and staff to ensure full compliance with Federal regulations and State statute and rules.

As described in CHAPTER 7 (page 118), the Asbestos/Lead Section Chief also evaluates the Lead-Based Paint Program as part of the annual planning process. The Section Chief reviews and evaluates the program goals, as well as the implementation process by looking at program tasks, assessing/reviewing program resources, personnel requirements and employee performance evaluations (which are done annually), and the priority of the program itself based on any changes in the scope of existing law, or based on new Federal or State statutes and rules.

Any noted inefficiencies, deficiencies, or regulatory violations in program implementation will be assessed and appropriate corrective actions incorporated into the program implementation process, as a means of achieving quality improvement.

It is also the intent of the QMP to perform an annual assessment of IDEM's Quality System, and the Lead-Based Paint Program will receive a specific QMP program audit or review sometime during a four (4) to five (5) year cycle required to assess all Agency programs. The IDEM QA assessment process will undergo formal development once the Quality Management Plan has been reviewed and approved by EPA Region 5. It is the intent to begin holding QA assessment planning meetings within six (6) to nine (9) months after official approval of the IDEM QMP.

## B. QUALITY IMPROVEMENT COMMUNICATION

The identification of problems affecting the quality of results is an important part of quality improvement. Recognizing this, IDEM management encourages a “no-fault” attitude to encourage the identification of problems. IDEM staff, at all levels, are encouraged to establish communications between customers and suppliers, identify process improvement opportunities, and identify and offer solutions to problems. As part of continuous quality improvement, IDEM Managers and personnel involved in the collection, analysis, and/or use of environmental data are encouraged to exceed quality expectations whenever possible.

## C. MEASURING SUCCESS

IDEM will use the following measures to gauge improvements in the Quality System.

**The measures of success for the QMP are:**

- An increase in the number of data sets that have a Quality System structure
- An increase in the number of Sections/Programs that utilize the Quality System
- The hiring of a QMP Manager (September, 2000), and the hiring (mid-February, 2001) and training (in progress as of 2-15-2001) of an IDEM QA Manager. The QMP Manager is currently the Director of the Office of Planning and Assessment, and is responsible for oversight of the IDEM QA Manager and the QMP process.)
- An increase in the number of programmatic changes in the Quality System that increase the consistency of data quality within and among Program Offices



# APPENDIX A

## Acronym List

AA	Administrative Assistant (IDEM)
AC	Assistant Commissioner (IDEM)
AFS	AIRS Facility Subsystem
AHERA	Asbestos Hazard Emergency Response Act
AIMS	Assessment Information Management System
AIRS	Aerometric Information Retrieval System
ANSI	American National Standards Institute
AOPA	Administrative Orders and Procedures Act
APTI	Air Pollution Training Institute
ASQC	American Society for Quality Control
ASTM	American Society of Testing and Materials
BAA	Broad Agency Announcement
CA	Corrective Action
CAATS	Computer Assisted Approval and Tracking System
CAD	Computer Aided Design
CME	Comprehensive Monitoring Evaluation
CD	Compact Disk
C/E	Compliance/Enforcement
CEMS	Continuous Emissions Monitoring System
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act (1980)
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CEU	Continuing Education Unit
CFR	Code of Federal Regulations
CLP	Contract Laboratory Procedures
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
COP	Current Operating Procedure
CPR	Cardio-pulmonary resuscitation
CRTK	Community Right-To-Know
CWA	Clean Water Act
DAC	Deputy Assistant Commissioner (IDEM)

DERP	Defense Environmental Restoration Projects
DOD	Department of Defense
DQA	Data Quality Assessment
DQOs	Date Quality Objectives
DWB	Drinking Water Branch (IDEM)
DWSRF	Drinking Water State Revolving Fund
ECOS	Environmental Council of State
EDD	Electronic Data Deliverable
EDO	Environmental Data Operations
EE	Environmental Engineer (IDEM)
EIIP	Emission Inventory Improvement Program
EM2	Environmental Manager 2 (IDEM)
EMPACT	Environmental Monitoring for Public Access and Community Tracking
EnPPA	Environmental Performance Partnership Agreement
EPA	United States Environmental Protection Agency
ES3	Environmental Scientist 3 (IDEM)
ETM	Elapsed Time Meter
FGDC	Federal Geographic Data Committee
FR	Federal Register
FESOP	Federally Enforceable State Operating Permit
FFY	Federal Fiscal Year
FLA	Facility Linking Application
FY	Fiscal Year
GC/MS	Gas Chromatography/Mass Spectrometry
GIS	Geographic Information System
GLI	Great Lakes Initiative
GLP	Good Laboratory Practices
GMIS	Gas Manufacturer's Instrumentation Standard
GMMs	Goals, Measures, and Milestones (IDEM)
GPS	Global Positioning System
HAP	Hazardous Air Pollutants
HAZWOPER	Hazardous Waste Operations & Emergency Response
HPMS	Highway Performance Monitoring System
HR	Human Resources
HRS	Hazardous Ranking System
HUD	United States Department of Housing and Urban Development



---

IAC	Indiana Administrative Code
IC	Indiana Code
ICPR	Indiana Commission on Public Records
IDEM	Indiana Department of Environmental Management
IDOA	Indiana Department of Administration
IFB	Invitation for Bid (IDEM)
INDOT	Indiana Department of Transportation
I/M	Inspection/Maintenance
IRATS	Indiana RCRA Activity Tracking System
I-STEPS	Indiana State Emissions Processing System
IT	Information Technology
LAG	Land Advisory Group (IDEM OLQ)
LBPP	Lead-Based Paint Program (IDEM)
LDI	Locational Data Improvement Initiative
LUST	Leaking Underground Storage Tanks
MAD	Method Accuracy Description
METS	Multimedia Enforcement Tracking System
MM	Multimedia
MPO	Metropolitan Planning Organization
MSR	Management Systems Review
MWREC	Midwest Regional Environmental Consortium
N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NEPPS	National Environmental Performance Partnership System
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NLLAP	National Lead Laboratory Accreditation Program
NO	Nitric Oxide
NO <sub>x</sub>	Nitrogen Oxides
NPD	Nonrule Policy Document
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	Nonpoint Source
NRDA	Natural Resources Damage Assessment
NSPS	New Source Performance Standards
OAQ	Office of Air Quality (IDEM)
OE	Office of Enforcement (IDEM)
OIT	Office of Information Technology (IDEM)

OLC	Office of Legal Counsel (IDEM)
OLQ	Office of Land Quality (IDEM)
O and M	Operations and Maintenance
OPA	Office of Planning and Assessment (IDEM)
OPPTA	Office of Pollution Prevention and Technical Assistance (IDEM)
OSHA	Occupational Safety and Health Administration
OSHWM	Office of Solid and Hazardous Waste Management (IDEM)
OWQ	Office of Water Quality (IDEM)
PARS	Precision and Accuracy Reporting System
PCB	Polychlorinated Biphenyls
PEP	Performance Evaluation Program
PM2.5	Particulate Matter 2.5 microns in diameter
PRP	Potentially Responsible Party
PSD	Prevention of Significant Deterioration
PSI	Pollutant Standards Index
PWSS	Public Water Supply System
QA	Quality Assurance
QAPPs	Quality Assurance Project Plans
QAPjPs	OLQ's Quality Assurance Project Plan for Laboratory Analysis (IDEM)
QAS	Quality Assurance Section (IDEM)
QA Team	Quality Assurance Team
QC	Quality Control
QMP	Quality Management Plan
QS	Quality System
RAPIDS	Regional Air Pollutant Inventory Development System
RAG	RCRA Advisory Group
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
RFP	Request for Proposal
RFQ	Request for Quotation
RISC	Risk Integrated System of Closure
SAP	Sampling and Analysis Plans
SDWA	Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System
SEM1	Senior Environmental Manager 1 (IDEM)
SIP	State Implementation Plan

SLAMS	State and Local Air Monitoring Stations
SO <sub>2</sub>	Sulfur Dioxide
SOP	Standard Operating Procedures
SOW	Statements of Work (IDEM)
SSOA	Source Specific Operating Agreement
StEP	Statistical Evaluation Plan
SWIMS	Solid Waste Information Management System
SWQMS	Surface Water Quality Management System
TMDL	Total Maximum Daily Limit
TRI	Toxic Release Inventory
TSA	Technical Systems Audit
TSCA	Toxic Substance Control Act
ULCERS	Underground Leaking, Community Right to Know, and Emergency Response System
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFW	United States Fish and Wildlife
UST	Underground Storage Tank
VPN	Virtual Private Network
VRP	Voluntary Remediation Program (IDEM)
WQS	Water Quality Standards
WPS	Work Practice Standards
XRF	X-Ray Fluorescence



# APPENDIX B

## Glossary

**assessment** - the evaluation process used to measure the performance or effectiveness of a system and its elements. As used here, assessment is an all-inclusive term used to denote any of the following: audit, performance evaluation, management systems review, peer review, inspection, or surveillance.

**audit (quality)** - a systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

**data quality assessment** - a statistical and scientific evaluation of the data set to determine the validity and performance of the data collection design and statistical test, and to determine the adequacy of the data set for its intended use.

**data quality objectives (DQOs)** - Qualitative and quantitative statements of the overall level of uncertainty that a decision-maker will accept in results or decisions based on environmental data. They provide the statistical framework for planning and managing environmental data operations consistent with user's needs.

**design** - specifications, drawings, design criteria, and performance requirements. Also the result of deliberate planning, analysis, mathematical manipulations, and design processes.

**environmental conditions** - the description of a physical medium (e.g., air, water, soil, sediment) or biological system expressed in terms of its physical, chemical, radiological, or biological characteristics.

**environmental data** - any measurements or information that describe environmental processes, location, or conditions; ecological or health effects and consequences; or the performance of environmental technology. For EPA, environmental data include information collected directly from measurements, produced from models, and compiled from other sources such as databases or literature.

**environmental data operations** - work performed to obtain, use, or report information pertaining to environmental processes and conditions.

**environmental programs** - work or activities involving the environment, including but not limited to: characterization of environmental processes and conditions; environmental monitoring; environmental research and development; the design, construction, and operation of environmental technologies; and laboratory operations on environmental samples.

**environmental technology** - an all-inclusive term used to describe pollution control devices and systems, waste treatment processes and storage facilities, and site remediation technologies and their components that may be utilized to remove pollutants or contaminants from or prevent them from entering the environment. Examples include wet scrubbers (air), soil washing (soil), granulated activated carbon unit (water), and filtration (air, water). Usually, this term will apply to hardware-based systems; however, it will also apply to methods or techniques used for pollution prevention, pollutant reduction, or containment of contamination to prevent further movement of the contaminants, such as capping, solidification or vitrification, and biological treatment.

**geographic information system (GIS)** - a set of data management and cartographic tools that can be used to store and perform analysis on locational data.

**global positioning system (GPS)** - a system that uses 24 orbiting satellites for obtaining locations on the Earth.

**graded approach** - the process of basing the level of application of managerial controls applied to an item or work according to the intended use of the results and the degree of confidence needed in the quality of the results.

**independent assessment** - an assessment performed by a qualified individual, group, or organization that is not a part of the organization directly performing and accountable for the work being assessed.

**inspection** - examination or measurement of an item or activity to verify conformance to specific requirements.

**management** - those individuals directly responsible and accountable for planning, implementing, and assessing work.

**management system** - a structured, non-technical system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for conducting work and producing items and services.

**management systems review** - the qualitative assessment of a data collection operation and/or organization(s) to establish whether the prevailing quality management structure, policies, practices, and procedures are adequate for ensuring that the type and quality of data needed are obtained.

**objective evidence** - any documented statement of fact, other information or record, either quantitative or qualitative, pertaining to the quality of an item or activity, based on observations, measurements, or tests which can be verified.

**organization** - a company, corporation, firm, enterprise, or institution, or part thereof, whether incorporated or not, public or private, that has its own functions and administration.

**peer review** - a documented critical review of work by qualified individuals (or organizations) who are independent of those who performed the work, but are collectively equivalent in technical expertise. A peer review is conducted to ensure that activities are technically adequate, competently performed, properly documented, and satisfy established technical and quality requirements. The peer review is an in-depth assessment of the assumptions, calculations, extrapolations, alternate interpretations, methodology, acceptance criteria, and conclusions pertaining to specific work and of the documentation that supports them.

**performance evaluation** - a type of audit in which the quantitative data generated in a measurement system are obtained independently and compared with routinely obtained data to evaluate the proficiency of an analyst or laboratory.

**process** - a set of interrelated resources and activities which transforms inputs into outputs. Examples of processes include analysis, design, data collection, operation, fabrication, and calculation.

**quality** - the totality of features and characteristics of a product or service that bear on its ability to meet the stated or implied needs and expectations of the user.

**quality assurance (QA)** - an integrated system of management activities involving planning, implementation, documentation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the client.

**quality assurance project plan (QAPP)** - a formal document describing in comprehensive detail the necessary QA, QC, and other technical activities that must be implemented to ensure that the results of the work performed will satisfy the stated performance criteria.

**quality assurance project plan (QAPjP)** - a formal document describing in comprehensive detail the necessary QA, QC, and other technical activities that must be implemented for Office of Land Quality (OLQ) laboratory analyses. It is used to ensure that the results of the work performed by the laboratory will satisfy the stated performance criteria.

**quality control (QC)** - the overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established by the customer; operational techniques and activities that are used to fulfill requirements for quality.

**quality improvement** - a management program for improving the quality of operations. Such management programs generally entail a formal mechanism for encouraging worker recommendations with timely management evaluation and feedback or implementation.

**quality management** - that aspect of the overall management system of the organization that determines and implements the quality policy. Quality management includes strategic planning, allocation of resources, and other systematic activities (e.g., planning, implementation, documentation, and assessment) pertaining to the quality system.

**quality management plan (QMP)** - a document that describes the quality system in terms of the organizational structure, functional responsibilities of management and staff, lines of authority, and required interfaces for those planning, implementing, and assessing all activities conducted.

**quality system** - a structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items), and services. The quality system provides the framework for planning, implementing, documenting, and assessing work performed by the organization and for carrying out required QA and QC activities.

**readiness review** - a systematic, documented review of the readiness for the start-up or continued use of a facility, process, or activity. Readiness reviews are typically conducted before proceeding beyond project milestones and prior to initiation of a major phase of work.

**record** - a completed document that provides objective evidence of an item or process. Records may include photographs, drawings, magnetic tape, and other data recording media.

**self-assessment** - assessments of work conducted by individuals, groups, or organizations directly responsible for overseeing and/or performing the work.

**specification** - a document stating requirements and which refers to or includes drawings or other relevant documents. Specifications should indicate the means and the criteria for determining conformance.

**standard operating procedure (SOP)** - a written document that details the method for an operation, analysis, or action with thoroughly prescribed techniques and steps, and that is officially approved as the method for performing certain routine or repetitive tasks.

**supplier** - any individual or organization furnishing items or services or performing work according to a procurement document or financial assistance agreement. This is an all-inclusive term used in place of any of the following: vendor, seller, contractor, subcontractor, fabricator, or consultant.

**surveillance (quality)** - continual or frequent monitoring and verification of the status of an entity and the analysis of records to ensure that specified requirements are being fulfilled.

**technical review** - a documented critical review of work that has been performed within the state of the art. The review is accomplished by one or more qualified reviewers who are independent of those who performed the work, but are collectively equivalent in technical expertise to those who performed the original work. The review is an in-depth analysis and evaluation of documents, activities, material, data, or items that require technical verification or validation for applicability, correctness, adequacy, completeness, and assurance that established requirements are satisfied.

**technical systems audit** - a thorough, systematic, on-site, qualitative audit of facilities, equipment, personnel, training, procedures, record keeping, data validation, data management, and reporting aspects of a system.



# APPENDIX C

## References

### I. Office of Land Quality Reference Documents

#### A. OLQ Regulations

Hazardous Waste Management Permit Program and Related Hazardous Waste Management, Indiana Administrative Code, January 1992, 329 IAC 10-3.1

[http://www.IN.gov/idem/olq/regulations\\_and\\_laws/329iac3.1.pdf](http://www.IN.gov/idem/olq/regulations_and_laws/329iac3.1.pdf)

PCB Waste Management, Indiana Administrative Code, May 1998, 329 IAC 4

[http://www.IN.gov/idem/olq/regulations\\_and\\_laws/swrules.html](http://www.IN.gov/idem/olq/regulations_and_laws/swrules.html)

Solid Waste Land Disposal Facilities, Indiana Administrative Code, April 1996, 329 IAC 10

<http://www.ai.org/legislative/iac/title329.html>

Underground Storage Tanks, Indiana Administrative Code, 1999, 329 IAC 9

<http://www.ai.org/legislative/iac/title329.html>

#### B. OLQ Plans

US Environmental Protection Agency, October 1994, CME Inspection Training Guide (CD)

IDEM Office of Solid and Hazardous Waste Management, June 1995, Organization and Management Improvement Plan for the Hazardous Waste Permitting Program

Indiana Department of Environmental Management, April 1999, IDEM Information Management Plan <http://www.IN.gov/idem/infoplan/index.html>

Indiana Department of Environmental Management, August 1999, GPS Training: GIS-Mapping Systems - GeoExplorer 2

IDEM Office of Land Quality, 1999, OLQ Sampling Database Training Manual

IDEM Office of Land Quality, 1999, ULCERS User Manual

Indiana Department of Environmental Management, June 2000, GPS Training: GIS-Mapping Systems - GeoExplorer 3

IDEM Office of Land Quality, June 2000, Compliance and Response Branch Site Specific Health and Safety Plan

OLQ Training Manuals

Environmental Systems Research Institute, Introduction to ArcView Training Manual

## C. OLQ Guidance Documents

US Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020

US Environmental Protection Agency, November 1985, Data Quality Objectives for the RI/FS Process

US Environmental Protection Agency, September 1986, RCRA Ground Water Monitoring Technical Enforcement Guidance Document, OSWER - 9950.1

US Environmental Protection Agency, 1986, SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition

US Environmental Protection Agency, 1987, RCRA Technical Enforcement Guidance Document, OSWER-9950.1an

IDEM Office of Land Quality, November 1988, Technical Guidance Document, Volume 1 - Requirements for Describing Unconsolidated Deposits

US Environmental Protection Agency, Interim Final -April 1990, Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures. EPA/540/G-90/004.

US Environmental Protection Agency, Third Edition, as amended by Update I, July 1992, SW-846, Chapter One of Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.

US Environmental Protection Agency, November 1992, PCB Inspection Manual

US Environmental Protection Agency, July 1993, Quality Assurance Project Plans and Data Quality Objectives for RCRA Ground Water Monitoring, #9445.1993(06)

US Environmental Protection Agency Method Accuracy Description (MAD) Version 6.1 Information Coding Standards for the U.S. Environmental Protection Agency's Locational Data Policy (LDP), November 1994, LDP Sub-Workgroup of the Regional GIS Workgroup

US Environmental Protection Agency, 1994, Contract Laboratory Program Functional Guidelines for Inorganic Data Review, EPA540/R-94/090

US Environmental Protection Agency, 1994, Contract Laboratory Program National Functional Guidelines for Organic Data Review, EPA-540/R-94/012

IDEM Office of Land Quality, January 1995, Underground Storage Tank Guidance Manual

IDEM Office of Land Quality, May 1996, OLQ Document 38 Solid Waste Program Analytical Data Deliverable Requirements

US Environmental Protection Agency, 1996, Sampler's Guide to the Contract Laboratory Program EPA-540/R-96/032

IDEM Office of Land Quality, February 1997, OLQ Document 41 Guidance for Statistical Evaluation Plan Preparation and Review

IDEM Office of Land Quality, March 1997, OLQ Document 54 Hazardous Waste Analytical Data Deliverable Requirements

US Environmental Protection Agency, February 1998, EPA Guidance for Quality Assurance Project Plans (G-5). EPA/600/R-98-018.

IDEM Office of Land Quality, April 1998, Ground Water Sampling and Analysis Plan Preparation Guidance

- US Environmental Protection Agency, May 1998, Guidance on Environmental Verification and Validation. EPA/600/R-98/004.
- IDEM Office of Land Quality, October 1998, Office of Land Quality Digital Data Submittal Standard
- American Public Health Association, 1998, Standard Methods for the Examination of Water and Wastewater, 19th edition
- IDEM Office of Land Quality, January 1999, OLQ Document 46 Guidance to the Performance and Presentation of Analytical Chemistry Data
- Office of Land Quality, January 1999, OLQ Document 46 Guidance to the Performance and Presentation of Analytical Chemistry Data
- US Environmental Protection Agency, September 1999, Guidance for TSCA PCB Inspection QAPP
- US Environmental Protection Agency, June 2000, Region 5 Quality Assurance Project Plan Instructional Document.
- US Environmental Protection Agency, July 2000, Guidance for Data Quality Assessment: Practical Methods for Data Analysis (G-9) QA00 Version. EPA/600/R-96/084.
- IDEM Office of Land Quality, July 2000, Locational Data Standard
- US Environmental Protection Agency, August 2000, Guidance for the Data Quality Objectives Process (G-4). EPA/600/R-96/055.
- US Environmental Protection Agency Region 5, September 2000, Electronic Data Deliverable (EDD)  
<http://www.epa.gov/region5superfund/edman/index.html>
- Indiana Department of Environmental Management, 2000, Electronic Data Deliverable Standards (under development)
- IDEM Office of Land Quality, 2000, IRATS Manual
- US Environmental Protection Agency, March 2001, EPA Requirements for QA Project Plans (QA/R-5). EPA/240-B-01-003.
- OLQ, February 2001, RISC Technical Guide and User Guide  
<http://www.in.gov/idem/land/risc/>
- US Environmental Protection Agency, Latest Version, Region 5 Model Quality Assurance Project Plan.

---

## II. Office of Water Quality Reference Materials Used in Various Water Programs

- IDEM OWQ, March 1996, "Biological Studies Section Standard Operating Procedures (SOPs) Manual."
- US EPA Office of Wetlands, Oceans and Watersheds, September 1996, "The Volunteer Monitor's Guide To Quality Assurance Project Plans."
- IDEM OWQ, March 1998, "Standard Operating Procedures (SOPs) for the Transportation, Use, Handling, and Storage of Laboratory Chemicals."
- IDEM OWQ, May 1998, "Surface Water Quality Monitoring Strategy 1996-2000"

IDEM OWQ, October 1998, "Field and Laboratory Standard Operating Procedures (SOPs) for the Transportation, Use, Handling, and Storage of Solutions Which Contain Formaldehyde."

IDEM OWQ, November 1998, "Guidelines for Preparing Quality Assurance Project Plans (QAPPs) for Section 319 Projects."

IDEM OWQ, June 1999, "QAPP for IN Surface Water Quality Monitoring Programs, Revision 2." (This document can be obtained from the QMP Contact for OWQ listed in APPENDIX K.)

IDEM OWQ, December 1999, "Quality Assurance Project Plans Checklist for Section 319 and Other Projects."

IDEM OWQ, January 2000, "Standards for Quality Assurance Project Plans (QAPPs) for Section 319 Nonpoint Source (NPS) Projects."

IDEM OWQ, April 2000, "Surveys Section Field Procedure Manual"

---

### III. Office of Water Quality Drinking Water References

IDEM Drinking Water Branch, March 2001, "Public Water Supply Systems Compliance and Enforcement Strategy."

State of Indiana, 2000, "Indiana Drinking Water Laboratory Certification Program (Chemistry)."

State of Indiana, 1994, "Indiana Drinking Water Laboratory Certification Program (Microbiology)."

---

### IV. Office of Water Quality Ground Water References

Ground Water Quality Assurance Program Plan, May 1995.

Indiana's Wellhead Protection Rule, 327 IAC 8-4.1, effective March 28, 1997.

Indiana's Wellhead Protection Program, approved by EPA, April 7, 1997.

Monitoring Well Network Field Manual, May 1997.

Indiana's Source Water Assessment Program, approved by EPA, May 5, 2000.

Private Well Complaint Response Program (COP)

ASTM Standards for Ground Water Modeling.

Federal and State Standards and Guidance Documents.

(IDEM will make a more comprehensive listing as we work to finalize the Office of Water Program description in the QMP).

# APPENDIX D

## OLQ Guidance and Nonrule Policy Documents

<http://www.IN.gov/idem/olq/publications/guidance/index.html>

The files listed below are available on the OLQ Novell LAN in the directory S:\ALL\_OLQ\DOCMGT\ for the downtown office and F:\ALL\_OLQ\DOCMGT\ for the Shadeland office in different subdirectories.

Shading indicates that a document or that document's version is no longer in use. A paper copy of the current version of the documents listed below is available in the OLQ file room. If you have questions or comments, please contact Glynda Oakes at 233-1052. Thank you.

ID#	VER	TITLE	DATE	CLASS	TYPE	FILENAME
0001	01	Guidance Interpreting Indiana Municipal Solid Waste Landfill Operational Regulations	11/18/96	SW	NPD	w0001_01_npd
0002	02	Guidance Interpreting the \$0.50 per Ton Solid Waste Management Fee	09/03/97	SW	NPD	w0002_02_npd
0003	02	Asbestos Handling and Disposal Requirements	6/13/99	SW	GUI	asbhdldi_gui2
0004	02	Asbestos Removal, Handling and Disposal Guidance for Homeowners	6/23/99	SHW	GUI	asbhomeo_gui2
0005	01	Renewing, Denying or Revoking Wastewater Management Permits and Land Site Approvals	2/6/96	SW	GUI	landsite_gui
0006	02	Coal Ash Classification Guidelines NOTE: Currently in revision. See program area for draft version.	5/1/96	SW	GUI	coalah_arc
0007	02	Construction Quality Control and Construction Quality Assurance of Clay Liner/Final Cover	11/1/96	SW	GUI	ence1_gui
0008	02	Construction Quality Control and Construction Quality Assurance for Geomembrane Liner	11/1/96	SW	GUI	ence2_gui
0009	03	Container Stacking Policy	10/14/97	HW	NPD	w0016_03_npd
0010	02	Design Standards for Protective Layer	11/1/96	SW	GUI	ence4_gui
0011	03	Disposal of Empty Containers as Solid Waste (UNDER REVISION)	5/9/97	SW	NPD	
0012	01	Disposal of Fluorescent Light Ballasts	8/23/93	SHW	GUI	pcbballa_gui
0013	02	Disposal of Nonfriable Asbestos-Containing Materials	12/21/98	SW	GUI	nonasb_gui
0014	02	District Plan Amendments: Supporting Documentation	8/1/96	SW	GUI	amensupp_gui
0015	01	Drainage Layer Design Standards Page D-1	11/1/96	SW	GUI	ence3_gui
0016	02	Dust Suppressants and Supplies	7/22/97	SHW	INF	dustlist_inf
0017	01	Final Cover and Closure Certification Requirements for Solid Waste Disposal Facilities	2/1/95	SW	GUI	finalco_gui
0018	02	Foundry Waste Classification Guidelines NOTE: Currently in revision. See program area for draft version.	3/97	SW	GUI	foundsand_arc

ID#	VER	TITLE	DATE	CLASS	TYPE	FILENAME
0019	02	General Recommendations for Disposal of Household Hazardous Waste	10/1/96	SHW	GUI	reghouse1_arc
0020	01	No Smoking Signs at Generators	10/14/97	HW	NPD	w0020_01_npd
0020	02	Generic Approval: Petroleum-Contaminated Spill Waste Virgin and Used Petroleum	5/1/96	SW	GUI	petroleu_arc
0021	04	Hazardous Waste Contingency Plan	07/08/98	HW	GUI	Continplan2_gui
0022	03	Hazardous Waste Personnel Training	10/14/97	HW	NPD	w0018_03_npd
0023	02	Guidance for the Design and Operation of Yard Waste Composting Facilities	10/31/96	SW	GUI	guidcomp_gui
0024	01	Guidance for the Evaluation of the Erosion Potential of Landfill Covers	1/02/86	SW	GUI	
0025	01	IDEM Policy on 40 CFR 265.176	6/20/95	HW	GUI	nosmoke_arc (See w0020_01_npd)
0026	03	Important Notice Regarding the Yard Waste Disposal Ban	10/22/97	SW	NPD	w0019_03_npd
0027	03	Important Notice Regarding the Whole Waste Tire Disposal Ban	5/30/97	SW	NPD	w0007_01_npd
0028	01	Leachate Disposal Standards	11/1/96	SW	GUI	ence5_gui
0029	02	Manure Management		SW	GUI	
0030	02	Methane Gas Venting System	11/11/96	SW	GUI	methane_gui
0031	02	Methane Monitoring Program for Municipal Solid Waste Landfill	11/11/96	SW	GUI	encd1_gui
0032	02	Operating Conditions for Non-Hazardous Solid Waste Incinerators	11/4/96	SW	GUI	
0033	02	Other Material Storage in Permitted Storage Areas	9/21/99	HW	NPD	W0035_01_npd
0034	03	Classification of Used Antifreeze	5/1/1997	HW	GUI	antifre2_gui
0035	01	Classification of Used Oil and Oil Filters NOTE: The Road Oiling Ban document is no longer in use!!!!	6/1/95	SHW	GUI	usedoil.arc (see 0051-01 and 0060-01)
0036	03	Management of Contaminated Wipes	6/27/97	SHW	NPD	w0010_01_npd
0037	03	RCRA Closure and Corrective Action	8/11/97	HW	NPD	w0015_01_npd
0038	01	Solid Waste Program Analytical Data Deliverable Requirements	5/1/96	SW	GUI	deliverreq1_gui
0039	02	Waste Status of CCA Treated Wood	5/9/97	SHW	NPD	w0006_01_npd
0040	03	Waste Status of Shredder Fluff	5/9/97	SHW	NPD	w0004_01_npd
0041	01	Guidance for Statistical Evaluation Plan Preparation and Review	2/6/97	SW	NPD	w0003_01_npd
0042	01	Altered Tires for an Alternative Daily Cover and/or Liner Protective Cover Material	6/1/96	SW	GUI	tiregdln_gui
0043	02	Disposal of Small Quantities of Hazardous Waste in Sanitary Landfills -- UNDER REVISION	5/1/96	SHW	GUI	
0044	01	Fluorescent and High-Intensity Discharge Lamp Disposal NOTE: now referred to as "Companies Involved in Recycling Fluorescent and HID Lamps"	11/16/94	HW	GUI	See 0053-01fl_lamps_arc
0046	02	Guidance to the Performance and Presentation of Analytical Chemistry Data	1/4/99	SHW	NPD	w0032_02_npd
0047	01	Management of Hazardous Waste Residues Removed from Empty Containers	6/27/97	HW	NPD	w0008_01_npd
0048	02	Rejected Load Manifest Signatures, Rejected	6/27/97	HW	NPD	w0012_01_npd

ID#	VER	TITLE	DATE	CLASS	TYPE	FILENAME
		Load Manifest Distribution, and Rejected Mixed Load Procedures				
0049	02	Staging Policy for Permitted Hazardous Waste Management Facilities	6/27/97	HW	NPD	w0011_01_npd
0050	02	Documenting Generator Tank Inspections	6/27/97	HW	NPD	w009_01_npd
0051	01	Complying with Indiana's Used Oil Rule	2/1/97	SHW	INF	usedoil_inf
0052	01	Pre-Construction Guidelines and Construction Quality Assurance Standards for New Unit and Other Construction	4/11/97	SW	GUI	preconst_gui
0053	01	Companies Involved in Recycling Fluorescent and HID Lamps NOTE: Contact OPPTA for an updated list of bulb recyclers	4/24/97	SHW	INF	fl_lamps_arc
0054	01	Hazardous Waste Analytical Data Deliverable Requirements	3/5/97	HW	GUI	remdeliv_gui
0055	01	Indiana's Universal Waste Rule	5/1/97	HW	INF	univwast_inf
0056	01	Understanding the Hazardous Waste Determination Process	5/1/97	HW	GUI	wastdet_gui
0057	02	Closed Containers	10/14/97	HW	NPD	w0022_02_npd
0058	01	Household Hazardous Waste Collection Center Suggested Standards	5/1/97	SHW	INF	househaz1_arc
0059	02	Polymerization as a Treatment Method for Fiberglass Wastestreams	10/14/97	HW	NPD	w0021_02_arc
0060	03	Used Oil Filters	10/14/97	HW	NPD	w0023_03_npd
0062	01	Hazardous Waste Closure Plan Guidance	7/25/97	HW	NPD	w0013_01_npd
0063	01	Subpart BB Air Emission Standards	6/23/99	HW	INF	sub_bb_inf
0064	01	Subpart CC Air Emission Standards	8/4/97	HW	INF	sub_cc_inf
0065	01	Key to Hazardous Waste Handler List	8/14/97	HW	INF	handlers_inf
0067	01	Tank Vault and Liner Clarification	9/23/98	HW	NPD	w0030_01_npd
0068	01	Tank/Container Clarification	11/12/97	HW	GUI	tankcon_gui
0069	02	Land Disposal Restriction Rules (Phase IV)	11/24/98	HW	INF	phaseiv_inf
0069	01	LDR Notification and Paperwork Changes	11/12/97	HW	GUI	ldr_arc
0070	01	Universal Waste Workgroup	11/12/97	HW	INF	wastewkgp_arc
0073	01	Railroad Tie and Utility Pole Disposal Guidance	9/23/98	HW	NPD	w0031_01_npd
0074	01	Post-Closure Uses of Solid Waste Disposal Facilities	2/25/98	SW	NPD	w0026_01_npd
0075	01	Confined Feeding Program Technical Guidance AW-1	12/31/97	HW	NPD	w0024_01_npd
0076	01	Storage of Type III Foundry Sands Prior to Legitimate Use	4/9/98	SW	NPD	w0027_01_npd
0077	01	Guidance on Direct Transfer of Infectious Waste at Non-permitted Transfer Operations	1/20/98	SW	NPD	w0025_01_npd
0078	01	Indiana Special Waste Disposal Sites	1/14/98	SW	INF	disposalsites3_inf
0079	01	Ignitable Solid Hazardous Waste	2/18/98	HW	GUI	ignitsol4_gui
0080	01	Who is the Generator	4/27/98	SW	GUI	generator_gui
0081	01	Foundry Sand Use (Booklet) / Use of Foundry Sands in Accordance with House Enrolled Act 1541	4/22/98	SW	NPD	w0028_01_npd (See also w0028_2)
0083	01	Disposal Facility Contingency Plan for Improperly Packaged Asbestos Containing Materials	8/12/98	SW	NPD	w0029_01_npd
0084	01	Commonly Asked Questions on the Waste Determination (329 IAC 10-7.1) and the Special Waste Management Rule (329 IAC 10-8.1)	3/19/99	SW	INF	faq_inf
0085	01	Indiana Used Oil Handling Facilities and Transporters	3/19/99	HW	INF	oilhand_inf
0086	01	Satellite Accumulation of Hazardous Waste by Generators	4/23/99	HW	NPD	W0034_npd
0087	01	Hazardous Waste Manifest Guidance Manual	4/1/99	HW	INF	Manifest_inf



ID#	VER	TITLE	DATE	CLASS	TYPE	FILENAME
0088	01	Collecting Static Water Level Measurements and Developing Ground Water Flow Maps	3/25/99	SW	NPD	W0033_01_npd
0089	01	Containment System Guidance for Permitted Container Storage Areas	9/21/99	HW	NPD	w0036_01_npd
0090	01	Guidance Interpreting the Exclusion of Food Products and Food Byproducts from Special Waste Regulations	6/8/99	SW	GUI	ffood_gui_01
0091	01	Treatment of Hazardous Waste On-Site by Generators	7/12/99	HW	GUI	HWGenTreat_gui_01
0092	01	Construction/Demolition	6/29/99	SW	GUI	constdemo_gui_01
0093	01	Industrial or Commercial Waste that is Similar to General Household Solid Waste UNDER REVISION	6/29/99	SW	GUI	
0094	01	Top Ten Hazardous Waste Violations	7/12/99	HW	GUI	TopTen_gui_01
0095	01	Indiana Modified Method 5035	10/28/99	SHW	NPD	W0037_01
0096	01	Lead Based Paint Waste-Management	12/8/99	HW	GUI	LeadBase_gui_01
0097	01	Property Containing Contaminated Aquifers/Underground Storage Tanks	12/20/99	REM	NPD	W0038_01_npd
0098	01	Excess Liability Trust Fund/Risk Integrated System of Closure	1/13/00	REM	NPD	W0039_01_npd
0099	01	Foundry Sand Use in Land Application and as a Soil Amendment	2/22/00	SW	NPD	W0040_npd_01
0100	01	Appropriate Personal Protective Equipment During Asbestos Disposal Operations	3/22/00	SW	GUI	AsbProEquip_gui_01



**LEGEND INFORMATION**

<b>ID#</b>	<b>OLQ General Document Identification Number</b>
<b>VER</b>	<b>Version Number</b>
<b>DATE</b>	<b>Date Document was Adopted</b>
<b>CLASS</b>	<b>Refers to primary classification of document use</b>
<b>SW</b>	<b>Solid Waste only</b>
<b>HW</b>	<b>Hazardous Waste only</b>
<b>SHW</b>	<b>Solid and Hazardous Waste</b>
<b>REM</b>	<b>Remediation</b>
<b>CRB</b>	<b>Compliance and Response Branch</b>
<b>TYPE</b>	<b>Refers to primary type of document</b>
<b>COPS</b>	<b>Current Operating Procedures (in COPS subdirectory)</b>
<b>GUI</b>	<b>Guidance (in GUIDANCE subdirectory)</b>
<b>INF</b>	<b>Informational Materials (in INFO_MAT subdirectory) such as Lists, Maps, Reports</b>
<b>FORM</b>	<b>Forms and related form instructions (in FORMS subdirectory)</b>
<b>NPD</b>	<b>Nonrule Policy Document (in NPD subdirectory)</b>
<b>ARC</b>	<b>refers to Archived materials</b>



# APPENDIX E

## Technical References for OLQ Staff

### Engineering Section, Permits Branch

#### Rules and Regulations

- 40 CFR 60
- 329 IAC rules for solid and hazardous wastes
- Indiana Environmental laws
- 40 CFR 260 - 299
- 40 CFR 257 and 258
- Proposed and final federal regulations and preambles

#### Information

- Solid and hazardous waste permit processes, and flow charts, IDEM
- RCRA Treatment, storage and disposal facility permit application checklist/canned comments USEPA and IDEM
- Post-closure permit application checklist/canned comments
- Engineering review manual for solid waste landfills with references, IDEM
- RCRA Orientation Manual, USEPA

#### Guidance Documents and Reference Books

- Design, construction and Evaluation of Clay Liners for Waste Management Facilities, US EPA
- Report of the 1995 Workshop on Geosynthetic Clay Liners, US EPA
- Quality Assurance and Quality Control for Waste Containment Facilities, USEPA
- Geosynthetic Design Guidance for Hazardous Waste Landfill Cells and Surface Impoundments, USEPA
- Predicting Rainfall Erosion Losses, USDA
- Technical Release 55 (TR-55) US Soil Conservation Service
- Guidelines for Evaluating Leachate Collection Systems for Sanitary Landfills: Leachate Level - IDEM Office Memorandum 12/12/88
- Leachate Recycling Guidance

- Claymax Equivalency Document for Clem Environmental Corporation by GeoSyntec consultants
- Alternative Daily Cover Materials for Landfills by PRC Environmental Mgmt. Corp. July 1991
- Altered Tires for an Alternative Daily Cover and/or liner Protective Cover Material, IDEM Guidance Document 1/24/2000
- Enclosure E5 Leachate Disposal Standards and Leachate Storage Area, IDEM Guidance Document 11/24/2000
- Liner Leak Detection Program Guidance Document, IDEM
- Enclosure D1 Methane Monitoring Program for Municipal Solid Waste Landfill-Outline, IDEM Guidance Document 1/24/2000
- Enclosure E4 Design Standards for Protective Layer, IDEM Guidance Document 1/24/2000
- Enclosure E3 Drainage Layer Design Standards, IDEM Guidance Document 1/2000
- Enclosure E2 Construction Quality Control and Construction Quality Assurance For Geomembrane Liner, IDEM Guidance Document 1/24/2000
- Enclosure E1 Construction Quality Control and Construction Quality Assurance of Clay Liner/Final Cover, IDEM Guidance Document 1/24/2000
- The STEI Two-Stage Borehole Field Permeability Test by Gordon Boutwell, PhD, PE 3/12/92
- Surface Impoundment Closure draft guidance, IDEM
- IDEM Guidance Documents for hazardous waste facility/unit Closure
- Technical Resource Document for the Storage and Treatment of Hazardous Waste in Tank Systems
- Design, Construction and Evaluation of Clay Liners for Waste Management Facilities, USEPA
- Technical Guidance document: Quality Assurance and Quality Control for Waste Containment Facilities, USEPA
- Technical Guidance Document for Final Cover, USEPA
- Draft guidance on industrial waste legislation (June 30, 2000)
- January 20, 1998, Guidance on direct transfer of infectious waste at non-permitted transfer operations
- Nonrule policy documents and guidance documents on the IDEM Web page
- RCRA (Resource Conservation and Recovery Act) Policy Compendium
- Seismic Analysis Construction Quality Assurance, IDEM

- USEPA hazardous waste training and technical information on the Web page
- USEPA Technical publications
- Remediation handbook, e.g. soil vapor extraction technology reference handbook by USEPA.
- Geosynthetic Research Institute, Designing with Geosynthetics by Robert Koerner
- Hydraulic and hydrology design handbook by DOT (Department of Transportation), Army Corp, USSCS, (e.g. urban hydrology for small watershed, hydraulic design of highway culverts, etc.)

### **Standards and Methods**

- ASTM Test Methods
  - ACI (American Concrete Institute) standards, (e.g. environmental engineering concrete structures, guide to sealing joints in concrete structure, etc.)
  - API (American Petroleum Institute) standards for tank systems
  - UL (Underwriters Laboratories) standards for tank systems
  - ASME (American Society of Mechanical Engineers) standards for tank systems
  - DOT (Department of Transportation) standards for container storage
  - NFPA (National Fire Protection Association) standards for storage and operation of flammable containers and tank systems
- ASTM (American Society of Testing and Materials) Standards
- ANSI (American National Standards Institute) standards for piping
- Army Corp of Engineers standards and methods

### **Training**

- Microsoft Word and Excel training
- RISC (Risk Integrated System of Cleanups) training
- HAZWOPER (Hazardous Waste Operations & Emergency Response) training
- University of Wisconsin short courses on civil and environmental engineering
- USEPA training and seminars in solid and hazardous wastes permitting and remediation
- Related APTI (Air Pollution Training Institute) courses



# APPENDIX F

## RCRA Hazardous Waste Permitting Resource Summary Guide

- Federal Register (located in the Permit Section Library)
  - 47 FR 32350, July 26, 1982
  - 48 FR 14294, Apr. 1, 1983
  - 50 FR 4514, Jan. 31, 1985
  - 50 FR 28746, July 15, 1985
  - 52 FR 25946, July 9, 1987
  - 52 FR 45798, Dec. 1, 1987
  - 52 FR 46963, Dec. 10, 1987
  - 53 FR 39728, Oct. 11, 1988
  - 58 FR 8683, Feb. 16, 1993
- RCRA Part B Permit Application Checklist and canned comments,  
[S:\igcn\olq\wp\HW\\_perm\PT B Comments.wpd](S:\igcn\olq\wp\HW_perm\PT B Comments.wpd) or <PC-Comments.wpd>
- 40 CFR Parts 260 to 271,  
[S:\igcn\olq\all\\_shwm\federal\Rules.cfr](S:\igcn\olq\all_shwm\federal\Rules.cfr)
- 329 IAC 3.1,  
<http://www.IN.gov/legislative/iac/V7.html#T329>
- Indiana Environmental Statutes, IC 13,  
<http://www.IN.gov/legislative/ic/code/title13>
- Introduction to Ground Water Monitoring,  
<http://www.epa.gov/epaoswer/hotline/training/gwm.pdf>
- RCRA Ground Water Monitoring: Draft Technical Guidance, EPA/530/R-93/001,  
Geology Library G8.0620
- Technical Enforcement Guidance Document, September 1986, OSWER- 9950.1,  
Geology Library G2.2160
- Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities: Interim  
Final Guidance, April 1989
- Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities:  
Addendum to Interim Final Guidance, July 1992

- The two above documents on statistics are at  
<http://www.epa.gov/clariton/clhtml/pubtitle.html 530R93003>
- Permit Applicant's Guidance Manual of Hazardous Waste Land Treatment, Storage, and Disposal Facilities, May 1984, EPA/530/SW-84/004, Geology Library G6.0877B
- Ground Water Sampling and Analysis Plan Preparation Guidance, IDEM 1988,  
[S:\igcn\olq\wp\HW\\_geol\sapguide.wpd](S:\igcn\olq\wp\HW_geol\sapguide.wpd)
- Technical Guidance Document, Volume 1 - Requirements for Describing Unconsolidated Deposits, IDEM Nov. 18, 1988  
[S:\igcn\olq\wp\HW\\_geol\permit\geology\guide.wpd](S:\igcn\olq\wp\HW_geol\permit\geology\guide.wpd)
- Requirements for Describing Unconsolidated Deposits, IDEM Nov. 18, 1988,  
[S:\igcn\olq\wp\HW\\_geol\permit\geology\policy.wpd](S:\igcn\olq\wp\HW_geol\permit\geology\policy.wpd)
- RCRA Permit Policy Compendium, EPA 1997,  
[S:\igcn\olq\all\\_shwm\support\RCRA Permit Compendium\rcra.bat](S:\igcn\olq\all_shwm\support\RCRA Permit Compendium\rcra.bat)
- Hazardous Waste Management Unit Closure Guidance WASTE-0013-NPD, July 25, 1997,  
[S:\igcn\olq\all\\_shwm\doc\\_mgt\Npd\w0013\\_01.wpd](S:\igcn\olq\all_shwm\doc_mgt\Npd\w0013_01.wpd)
- Risk Assessment Addendum to the Hazardous Waste Management Unit Closure Guidance, September 28, 1998,  
[S:\igcn\olq\wp\HW\\_perm\risk user guidance.wpd](S:\igcn\olq\wp\HW_perm\risk user guidance.wpd)
- RISC User's Guide, Feb. 18, 1999, (Chapter 2)  
[http://www.IN.gov/idem/oer/risc/user\\_guide/ch2\\_rcra.pdf](http://www.IN.gov/idem/oer/risc/user_guide/ch2_rcra.pdf)
- Alternate Concentration Limit Guidance, July 1987, EPA/530/SW87/017 and OSWER Directives 9481.00-6C and 9481.00-10, Geology Library G8.0790
- Various Section Policy Statements,  
[S:\igcn\olq\wp\HW\\_geol\permit\1toc.wpd](S:\igcn\olq\wp\HW_geol\permit\1toc.wpd)



# APPENDIX G

## Solid Waste Land Disposal Facilities Permitting Documentation Resource Summary Guide

### Reading and Reference Material

- Indiana Administrative Code (IAC):
  - 329 IAC 10 Solid Waste Land Disposal Rules, April 1996 - Present
  - 329 IAC 2 Solid Waste Land Disposal Rules, February 1989 - April 1996
  - 329 IAC 1.5 Solid Waste Land Disposal Rules, 1974 - February 1989
- DNR Well Logs for local and regional hydrogeology and bedrock information.
- Soil Surveys of Indiana Counties.
- Documents/Memos/Letters
- Solid Waste Permit Application Review Process
  - Completeness Checks
  - Request Additional Information (RAI)
- Solid Waste Standard Permit Conditions for each of the following types of sites.

329 IAC 10	329 IAC 2
Municipal	Municipal
Nonmunicipal	Nonmunicipal
Restricted I, II, III, with monitoring	Restricted I, II, III with monitoring
Construction Demolition with Monitoring	

- Digital Resources
- Solid Waste Geology Tracking Log
- OLQ Sampling Database



# APPENDIX H

## STANDARD OPERATING PROCEDURES (SOPs) USED BY OLQ

Note: Some SOPs are denoted as COPs (Current Operating Procedure), which is an earlier terminology.

SOP/COP Name	Publication or Revision Date	Target Section or Program Area(s)
HW Chemistry Procedures for Tracking of Document Reviews	1/14/1997	Chemistry Services
RISC Tracking System COP	3/21/2001	RISC personnel
Using Maps to Perform Volume Calculations	6/25/1998	Facilities Data Analysis
How to Digitize Using AutoCAD 13 or 14	11/13/1998	Facilities Data Analysis
Using QuickSurf for AutoCAD 14 to Determine Volumes	6/26/1998	Facilities Data Analysis
How to Access, Enter, & Reconcile Compost Annual Reports on Paradox	8/4/1997	Facilities Data Analysis
Current Operating Procedures for Solid Waste Facility Quarterly Reports	6/16/2000	Facilities Data Analysis
Application Log-In	2/6/2001	Confined Feeding
Application Review Checklist	2/6/2001	Confined Feeding
Application Review Process	2/6/2001	Confined Feeding
Manure Management Plan Review	2/6/2001	Confined Feeding
CFO Status: Void vs. Inactive	2/6/2001	Confined Feeding
Voidance Request	2/6/2001	Confined Feeding
Current Operating Procedures for Conducting Category B Multimedia Screening Inspections And Category C AND D Multimedia Inspections	3/19/1999	Agricultural and Solid Waste Compliance
Establishment & Maintenance Of Form Documents	1/5/2001	Solid Waste Permits
Issuance Of Decision Letter To Request For Insignificant Modification	1/25/2001	Solid Waste Permits
Issuing A Notice Of Application To Local Officials (NOALO) NEW MSWLF's AND MSWLF Major Modifications	1/25/2001	Solid Waste Permits
Application Receipt & LOG-IN NEW Municipal Solid Waste Landfills & Major Modifications	1/25/2001	Solid Waste Permits
Chemistry Tracking Database Entry	1/14/1997	Chemistry Services
Quality Assurance/Quality Control Documentation Required	2/13/1997	Chemistry Services
Data Review Current Operating Procedure -- Hazardous Waste Chemistry With Emphasis on Ground Water Monitoring Packages	1/26/1996	Chemistry Services
Consistency in Hazardous Waste Chemistry Review of Risk Assessments	9/30/1997	Chemistry Services
Tracking Forms and Database for Tracking	1/14/1997	Chemistry Services

Chemistry Reviews		
Red/Purple Folder Tracking And Development	1/17/1996	Superfund/DERP/NRDA
Site Assignment Transfer Procedure	1/17/1996	Superfund/DERP/NRDA
Proposed Plan, Records of Decision	1/17/1996	Superfund/DERP/NRDA
Public Files	1/17/1996	Superfund/DERP/NRDA
Review Time For Documents	1/17/1996	Superfund/DERP/NRDA
Not For Public View Files	1/17/1996	Superfund/DERP/NRDA
General/Special Notice Of Liability (GNL/SNL) Letter State Lead Superfund Site	1/17/1996	Superfund/DERP/NRDA
Role Of OLC And IAG'S Office	1/17/1996	Superfund/DERP/NRDA
BAA Procedures	1/17/1996	Superfund/DERP/NRDA
Grant Applications	1/17/1996	Superfund/DERP/NRDA
Open Door Law	1/17/1996	Superfund/DERP/NRDA
Procedure For Residential Well Filter Change Outs	1/17/1996	Superfund/DERP/NRDA
Public Meetings	1/17/1996	Superfund/DERP/NRDA
Facility Data Reconciliation	4/5/2000	Facilities Data Analysis

# APPENDIX I

## OFFICE OF AIR QUALITY (OAQ) QUALITY ASSURANCE REFERENCES

### **40 CFR Part 50 National Ambient Air Quality Standards for Particulate Matter – FINAL DECISION**

This document describes the EPA's decision to revise the National Ambient Air Quality Standards (NAAQS) for Particulate Matter (PM) based on its review of the available scientific evidence linking exposures to ambient PM to adverse health and welfare effects at levels allowed by the current PM standards.

### **40 CFR Parts 50, 53, and 58 National Ambient Air Quality Standards for Particulate Matter and Revised Requirements for Designation of Reference and Equivalent Methods for PM<sub>2.5</sub> and Ambient Air Quality Surveillance for Particulate Matter – CORRECTION**

The EPA is making minor clarifications and/or corrections to the final rules revising 40 CFR Parts 50, 53, and 58 published on July 18, 1997.

### **40 CFR Part 50 National Ambient Air Quality Standards for Particulate Matter AVAILABILITY OF SUPPLEMENTAL INFORMATION AND REQUEST FOR COMMENTS**

The EPA is announcing the availability of certain laboratory and field test data, and related reports associated with the development of the reference method for measuring PM<sub>2.5</sub> in the ambient air.

### **40 CFR Parts 53 and 58 Revised Requirements for Designation of Reference and Equivalent Methods for PM<sub>2.5</sub> and Ambient Air Quality Surveillance for Particulate Matter - FINAL RULE**

This final rule revises the 40 CFR Parts 53 and 58 ambient air quality surveillance regulations to include provisions for PM<sub>2.5</sub> and PM<sub>10</sub>.

### **Guidance for Using Continuous Monitors in PM<sub>2.5</sub> Monitoring Networks**

This guidance provides a survey of alternatives for continuous in situ measurements of suspended particles, their chemical components, and their gaseous precursors.

### **FR Appendix L, to Part 50 - Reference Method for the Determination of Fine Particulate Matter as PM<sub>2.5</sub> in the Atmosphere**

This method provides for the measurement of the mass concentration of PM<sub>2.5</sub> in ambient air over a 24 hour period for purposes of determining whether the primary and secondary NAAQS for fine particulate matter are met.

### **Monitoring PM<sub>2.5</sub> in Ambient Air Using Designated Reference or Class I Equivalent Methods**

This document is intended to assist personnel of air monitoring agencies that use reference methods or Class I equivalent methods to monitor ambient air for PM<sub>2.5</sub>.

### **Static Control for Balances**

This document provides information on causes and methods of treatment for "static," a major problem when using a sensitive balance.

**PM2.5 Mass Weighing Laboratory Standard Operating Procedures for the Performance Evaluation Program (PEP)**

The purpose of this document is to ESAT (the contract laboratory) laboratory analyst (LA) with background information on the PM2.5 Program, and the Federal Reference Method Performance Evaluation Program (PEP) as an introduction to standard operating procedures (SOPs) for laboratory personnel involved in the PEP.

**Ambient Monitoring Guidelines for Prevention of Significant Deterioration (PSD)**

Guidance is given for designing a PSD air quality monitoring network as well as the operational details such as sampling procedures and methods, duration of sampling, quality assurance procedures, etc. Guidance is also given for a meteorological monitoring program as well as the specifications for meteorological instrumentation and quality assurance procedures.

**Guideline for Reporting of Daily Air Quality - Pollutant Standards Index (PSI)**

This guidance is designed to aid local agencies in reporting the air quality using the PSI as required in Part 58.50 of 40 CFR and according to Appendix G to Part 58 of 40 CFR.

**Guideline for the Implementation of the Ambient Air Monitoring Regulations 40 CFR Part 58**

The major purpose of this guideline is to provide assistance and information for the implementation of the EPA Regulations on Ambient Air Quality Monitoring and Data Reporting (40 CFR Part 58).

**Guideline for Short Term Lead Monitoring in the Vicinity of Point Sources**

The purpose of this guideline is to provide recommended procedures for a short term monitoring program to obtain ambient lead data essential to the development of a lead control strategy. The guideline also describes associated air quality data assurance and reporting procedures.

**Guideline on Data Handling Conventions for the 8 Hour Ozone NAAQS**

This guideline covers the data handling and ambient air quality monitoring data completeness requirements for the 8 hour ozone NAAQS as given in APPENDIX I.

**Guideline on Ozone Monitoring Site Selection**

This report assists those agencies considering how to design, implement, or revise ozone monitoring networks, particularly in light of the need to collect 8 hour ozone concentration data.

**Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events**

This guideline document is intended to provide national guidance for identifying ("flagging") and using ambient air quality data influenced by exceptional events.

**List of Designated Reference and Equivalent Methods**

This is a list of Reference and Equivalent Methods acceptable for use in state or local air quality surveillance systems under 40 CFR Part 58.

**National Ambient Air Quality Standards (NAAQS) for Ozone**

This document describes EPA's decision to revise the NAAQS for ozone based on its review of the available scientific evidence linking exposures to ambient ozone to adverse health and welfare effects at levels allowed by the current ozone standards.

**National Ambient Air Quality Standards (NAAQS) for Sulfur Oxides (Sulfur Dioxide) Final Decision**

In accordance with sections 108 and 109 of the Clean Air Act (Act), EPA has reviewed and revised the air quality criteria upon which the existing NAAQS for sulfur oxides are based. Based on that review, this document announces EPA's final decision under section 109(d)(1) that revisions of the NAAQS for sulfur oxides are not appropriate at this time, aside from several minor technical changes.

**Optimum Site Exposure Criteria for SO<sub>2</sub> Monitoring**

This report presents procedures and exposure criteria for selecting SO<sub>2</sub> monitoring sites

**Quality Assurance Requirements for State and Local Air Monitoring Stations (SLAMS)**

This Appendix specifies the minimum quality assurance requirements applicable to SLAMS air monitoring data submitted to EPA.

**Section 107 Designation Policy Summary**

This memorandum summarizes and clarifies existing policy for reviewing attainment and nonattainment designations and provides new guidance on processing these actions.

**Selecting Sites for Carbon Monoxide Monitoring**

This report presents procedures and criteria for selecting appropriate locations for carbon monoxide (CO) monitoring stations.

**Site Selection for the Monitoring of Photochemical Air Pollutants**

The intent of this report is to provide a comprehensive and up to date technical resource document to assist EPA, state and local air pollution control agencies, and other users in developing better and more effective monitoring networks for the photochemical pollution.

**Technical Assistance Document for the Calibration of Ambient Ozone Monitors**

The ultraviolet photometric procedures and guidance described in this Technical Assistance Document represent new monitoring technology, which is now available to assist monitoring agencies in accurately calibrating ambient ozone analyzers and in assuring the continual quality of atmospheric ozone measurements.

**Technical Assistance Document for the Chemiluminescence Measurement of Nitrogen Dioxide**

The EPA has replaced the original reference method for nitrogen dioxide with automated reference methods based on the gas phase chemiluminescence measurement principle and prescribed calibration procedures. This document provides technical information and illustrative examples to aid in the understanding of the measurement principle and particularly of the two specified calibration procedures.

**Transfer Standards for the Calibration of Ambient Air Monitoring Analyzers for Ozone**

This Technical Assistance Document defines, specifies, and formalizes the certification of ozone transfer standards for calibrating ambient ozone analyzers.

**1990 Nonmethane Organic Compound and Three Hour Air Toxics Monitoring Program**

In certain areas of the country where the National Ambient Air Quality Standard (NAAQS) for ozone is being exceeded, additional measurements of ambient nonmethane organic compounds (NMOC) are needed to assist the affected states in developing revised ozone control strategies. This document details these additional measurements.





# APPENDIX J

## OFFICE OF AIR QUALITY (OAQ) STANDARD OPERATING PROCEDURES FOR AIR MONITORING BRANCH

### QUALITY ASSURANCE SECTION

- 1-0 Standard Operating Procedures (SOPs)**
  - 1-1 How to Format Standard Operating Procedures
    - Purpose
    - Definition(s)
    - Margins
  - 1-1.2 Header
  - 1-1.3 Procedure
  - 1-1.4 SOP Number and Page Number
  - 1-1.9 Additional Pages
  - 1-1.10 Filing of SOPs
  - 1-1.11 Template
- 2-0 Quality Assurance Section Correspondence**
  - 2-1 Formatting General Letters and Memorandums
    - Purpose
    - Definition(s)
  - 2-1.1 General Letters
  - 2-1.2 General Memorandums
    - Examples
  - 2-2 Form Letters
- 3-0 Procedure for Writing Chapters in the Quality Assurance Manual**
  - 3-1 Formatting
  - 3-2 Structuring
  - 3-3 Cost
  - 3-4 Printing and Distribution
  - 3-5 Revisions (time frame)
- 4-0 Personnel**
  - 4-1 Evaluation Process
    - Purpose
    - Definition(s)
  - 4-1.1 Annual Performance Appraisal
  - 4-1.2 Fact File
  - 4-2 Acting Supervisor Designation
    - Purpose
    - Definition(s)
  - 4-2.1 Acting Supervisor Designation

- 4-1.2 Duties
- 5-0 Quality Assurance Section Office Procedures**
  - 5-1 Retention of Documents
  - 5-2 Print Jobs
  - 5-3 Loan of Equipment
  - 5-4 Building Maintenance Request
  - 5-5 Library
  - 5-6 Computer Repair Request
  - 5-7 Satellite/TV/VCR Operation
- 6-0 Training**
  - 6-1 In-House Training
    - In-State Training
  - 6-3 Out-of-State Training
- 7-0 Quality Assurance Section Vehicles**
  - 7-1 QA Section's Log Book
  - 7-2 Checking schedule for unscheduled use of vehicles
  - 7-3 Vehicle Repair
  - 7-4 Vehicle Loan Agreement
    - 7-4.1 Notification of Problems
- 8-0 Technical Policies**
  - 8-1 Cylinder Inventory
    - 8-1.1 Receiving New Cylinders
    - 8-1.2 Returning Empty Cylinders
    - 8-1.3 Cylinder Inventory
  - 8-2 Quality Assurance Monitoring Plan
  - 8-3 NWI Data Transfer
    - 8-3.1 Entering Field Audit Records
    - 8-3.2 Location of Files on the AMB LAN
    - 8-3.3 File Nomenclature
    - 8-3.4 Transfer of Complete NWI Audit Files
    - 8-3.5 Confirmation of File Transfer
    - 8-3.6 Distribution of Transferred Files
  - 8-4 Review of the Precision and Accuracy Field Quarterly Reports
  - 8-5 Meteorological Audits Program Procedures
    - 8-5.1 Scheduling.
    - 8-5.2 Standard Operating Procedures
    - 8-5.3 Reporting
    - 8-5.4 Data
  - 8-6 Certification Facility Program Procedures
    - 8-6.1 Scheduling
    - 8-6.2 Certifications
    - 8-6.3 Standard Operating Procedures
    - 8-6.4 Maintenance
    - 8-6.5 Certification Facility Check
    - 8-6.6 Reporting
    - 8-6.7 Planning
    - 8-6.8 Computers
    - 8-6.9 Tracking
    - 8-6.10 Training
  - 8-7 Interlab Audits Program Procedures

8-7.1	Federal
8-7.2	State
8-7.3	Scheduling
8-7.4	Tracking
8-7.5	Reporting
8-8	Quarterly PARS (Precision and Accuracy Reporting System) Data Transfer Program Procedures
8-9	Seasonal Monitoring Calibration Requirement
8-10	Exceedance Review Reporting System
8-11	Site Description Book
8-12	Submitting the Precision and Accuracy Report
8-13	Data Checks
8-15	Molbox Certification Procedures
8-16	Checking Vacuums on Manifolds
8-17	Barometer Certification/Calibration Procedures
8-18	CO Calibrations
8-19	Calibration of Lab Ozone Analyzer
8-20	Psychrometer Thermometer/Temperature Probe
8-21	Orifice Calibrations
8-22	Verification of SO <sub>2</sub> Calibrators
8-23	Multimeter Certification Calibration
8-24	Audit Method for Metal Strips
8-25	GMIS Designation (Gas Manufacturer's Instrumentation Standard)
8-26	CO Certifications
8-27	ETM (Elapsed Time Meter) Certification
8-28	SO <sub>2</sub> Analyzer Calibration
8-29	Anemometer Certification
8-30	Bio Verifications
8-31	NO Calibrations
8-32	NO Certifications
8-33	SO <sub>2</sub> Certifications
8-34	Ozone Loss Test
8-35	"S" Weights
8-36	Stopwatch Certifications
8-37	Ozone Certifications
8-38	Factory Certification/Calibration for Photo Tachometers
8-39	Factory Certification/Calibration for Radiation Sensors
8-40	Factory Certification/Calibration for Precision Power Supply
<b>9-0</b>	<b>Requisitions</b>
9-1	Requisition Program Procedures
9-2	Emergency Requisitions
<b>10-0</b>	<b>Safety</b>
10-1	Safety Program Procedures
10-2	Standard Operating Procedures for Disposal of Hazardous Waste
<b>12.0</b>	<b>Ambient Monitoring Section's SOP Relating to Quality Assurance Section</b>
1-5	Audits/Calibrations/Data Calculations for Mass Flow Controller PM-10 Samplers
	Office of Air Quality, Quality Assurance Manual

## AIR PROGRAMS

Inventory Preparation Program



# APPENDIX K

## IDEM Program Contacts for Production of Quality Management Plan (QMP)

Name	Office	Phone	Email	Role
Paula Smith	Planning & Assessment	(317) 233-1210	psmith@dem.state.in.us	IDEM QMP Manager
Ruthann "Rudy" Osenbaugh	Planning & Assessment	(317) 234-1627	rosenbau@dem.state.in.us	IDEM Quality Assurance Manager and coordinating document production
Steve Blaser	Air Quality	(317) 308-3251	sblaser@dem.state.in.us	Air programs contact
Brian Shaw	Water Quality	(317) 233-8283	bshaw@dem.state.in.us	Water programs contact
Pat Carroll	Water Quality	(317) 308-3281	pccarroll@dem.state.in.us	Drinking & Ground Water contact
Monica Hartke-Tarr	Land Quality	(317) 233-2774	mhartke@dem.state.in.us	Land programs contact
Sue Keaton	Office of Pollution Prevention and Technical Assistance	(317) 233-5642	ckeaton@dem.state.in.us	TRI program contact
John Rose	Planning & Assessment	(317) 233-8493	jrose@dem.state.in.us	Coordinating Information Technology



# APPENDIX L

## Accepted Documented Methodologies for the Lead-Based Paint Program

### INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT — NONRULE POLICY DOCUMENT

**Identification:** Number: Air-025-NPD

**Effective Date:** September 1, 2000

**Dates Revised:** None

**Other Policies Repealed or Amended:** None

**Brief Description of Subject Matter:** Describes IDEM's Accepted Documented Methodologies for the Lead-Based Paint Program.

---

Section 403 of Title IV of the Toxics Substances Control Act (TSCA) required EPA to promulgate regulations that identify lead-based paint hazards, lead contaminated dust and lead-contaminated soil. On August 29, 1996, under 40 CFR 745, EPA promulgated regulations under Section 402 of TSCA to ensure individuals conducting lead-based paint activities in target housing and child-occupied facilities are properly trained and certified, that training programs providing instruction in such activities are accredited, and that these activities are conducted according to reliable, effective, and safe work practice standards.

This nonrule policy document is intended solely as guidance and does not have the effect of law or represent formal Indiana Department of Environmental Management (IDEM) decisions or final actions. This nonrule policy document shall be used in conjunction with applicable laws. It does not replace applicable laws, and if it conflicts with these laws, the laws shall control. A revision to this nonrule policy document may be put into effect by IDEM (30) thirty days after the revised nonrule policy is made available for public inspection and comment, or presentation to the air pollution control board. IDEM will submit revisions to the Indiana Register for publication.

### Policy

Indiana promulgated rules under 326 IAC 23 that went into effect on February 5, 1999. The rules require persons performing lead-based paint activities to follow documented methodologies as specified under 326 IAC 23-4-2, 326 IAC 23-4-3, 326 IAC 23-4-4, and 326 IAC 23-4-9. This nonrule policy document is intended to specify which documented methodologies will be acceptable to perform lead-based paint activities.

**The documented methodologies, which IDEM will allow to comply with 326 IAC 23 are found in the following:**

- (1) The U.S. Department of Housing and Urban Development (HUD)  
"Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing."  
Published June 1995.

(2) The U.S. EPA "Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust, and Lead-Contaminated Soil."

Published July 14, 1994.

(3) The U.S. EPA "Residential Sampling for Lead." Published March, 1995.

Other equivalent methods and guidelines authorized by EPA will also be allowed.

For a copy of the rule, supporting documents, fact sheets and other information about lead, call the National Lead Information Clearinghouse (NLIC) at (800) 424-LEAD, or TDD (800) 526-5456 for the hearing impaired. Request documents and/or visit the National Lead Information Clearinghouse on

the Internet at: <http://www.epa.gov/lead/nlicdocs.htm>.

Copies can also be obtained from the Indiana Department of Environmental Management, Office of Air Management, Asbestos Section, 100 North Senate Avenue, Room 1003, Indianapolis, Indiana 46204 during regular work hours or call 1-800-621-4057 (in Indiana) ask for extension 3-9863 or (317) 233-9863

Frank Profit (317) 232-8416 is the contact for this program.



# APPENDIX M

## Guidelines for Preparing Quality Assurance Project Plans (QAPPs) for Section 319 Projects

For this document and examples of Quality Assurance Project Plans, visit the "Section 104(b)(3), 205(j), and 319 QAPP Information" page on the Internet at:

<http://www.in.gov/idem/water/planbr/wsm/QAPP.htm>

Internally, this document is available on the network drive at

<S:\Agency\QMP\CurrentVersion\AppendixM.doc>

or in PDF format at:

<S:\Agency\QMP\CurrentVersion\AppendixM.pdf>.



# APPENDIX N

## Standards (COP) for Quality Assurance Project Plans (QAPPS) for Section 319 Nonpoint Source (NPS) Projects

**Date:** January 20, 2000

**Status:** Final Draft

**Regulatory Citation:** 40 CFR 31.45

**Purpose:** To provide a standard method of managing data that will be produced as a result of a Section 319 Nonpoint Source (NPS) project.

---

### Background

Quality assurance is necessary whenever environmental data will be collected for use in making decisions or drawing conclusions, either locally or within the Nonpoint Source program. The Quality Assurance Project Plan (QAPP) is an integral part of any NPS project that involves the collection of environmental data. It is instrumental in providing verification of project results. The NPS QAPP Guidelines have evolved as a result of the use of a combination of several EPA documents that provide guidelines for quality assurance of data management. These guidelines are used by the Project Applicant/Contractor to develop a QAPP specific to their project.

At any one time the QAPP can be relegated to one of three phases within the NPS project: (1) the development stage, where the Quality Assurance (QA) Manager and the Project Applicant/Contractor agree on a specific QAPP for the project, (2) the actual implementation of the QAPP within the project, and (3) the final review and quality assurance of the data collected during the project. The QAPP is generally managed by a QA Manager, who notifies the Project Manager and Contractor of the results/status of the QAPP within the various stages of the project. The QA Manager is most actively involved during the development stage, secondly, during the final review of the project, and sometimes within the implementation of the project (particularly if a QA audit occurs).

### Responsible Party

Quality Assurance (QA) Manager

### When applicable

A Quality Assurance Project Plan should be prepared for every project which generates environmental data; whether physical, chemical, or biological in nature. Note: If 319 grant money will not be used for any part of the data collection process (and the cost will not be used as match), a QAPP is not required to be submitted.

### Materials and Resources

Guidelines for Preparing Quality Assurance Project Plans (QAPPS) for Section 319 Projects, Contract, Project Proposal, Standard Methods for the Examination of Water and Wastewater, and/or any other approved methods.

**Procedure**

1. The Project Manager addresses/discusses the QAPP requirement with the Contractor during the initial site visit (if not before). A copy of the Guidelines for Preparing Quality Assurance Project Plans (QAPPs) for Section 319 Projects should be given to the Contractor at this time. The QA Manager may be invited to the initial site visit if it is anticipated that the Contractor will have a lot of QAPP questions.
2. The Contractor sends a draft QAPP to the QA Manager for review.
3. The QA Manager reviews the draft QAPP, usually within 2 weeks, and provides the Contractor with written comments via email or fax. A checklist is used during the review of the QAPP (see the QAPP checklist below). The Contractor may submit another draft for review before the final draft. Communication and comments will continue until a final draft is submitted.
4. The Contractor signs and submits what he/she believes to be the final draft of the QAPP to the QA Manager.
5. The QA Manager, again using the checklist, reviews the final draft QAPP. Additional changes necessary can be agreed upon over the phone/by fax..
  - A. If the QAPP meets the approval of the QA Manager, it is signed by the QA Manager.
  - B. If the QAPP nearly meets the approval of the QA Manager, the QA Manager may give verbal approval to the Contractor, particularly if the first data collection needs to be accomplished quickly. The QA Manager will wait for the revisions before signing the QAPP.
6. The QAPP is then forwarded to the Section Chief and Branch Chief for signatures.
7. After the QAPP is signed by all parties, the QA Manager sends written notification of the QAPP approval, along with a photocopy of the signed signature page, to the Contractor. All drafts, correspondence, and the final approved QAPP are maintained in the appropriate project file (Section 4).
8. The Contractor may then begin data collection, per the approved QAPP.
9. The QA Manager may (depending on the project) conduct an audit early within the project, or otherwise at his or her discretion.
10. If a revision is needed within the QAPP during the course of the project, the QA Manager should review and approve the revision.
11. After the project is completed, the Project Manager should forward a copy of the project's final report to the QA Manager. The QA Manager should review the data portion of the final report. Any comments will be forwarded to the Project Manager for submittal to the Contractor.

# APPENDIX O

## Quality Assurance Project Plan Checklist for Section 319 and Other Projects

See [AppendixO.doc](#) or [AppendixO.pdf](#) for the full document.

Internally, this document is available on the network drive at  
S:\Agency\QMP\CurrentVersion\.



# APPENDIX P

## Multimedia Screening Checklist

See [AppendixP.doc](#) or [AppendixP.pdf](#) for the full document.

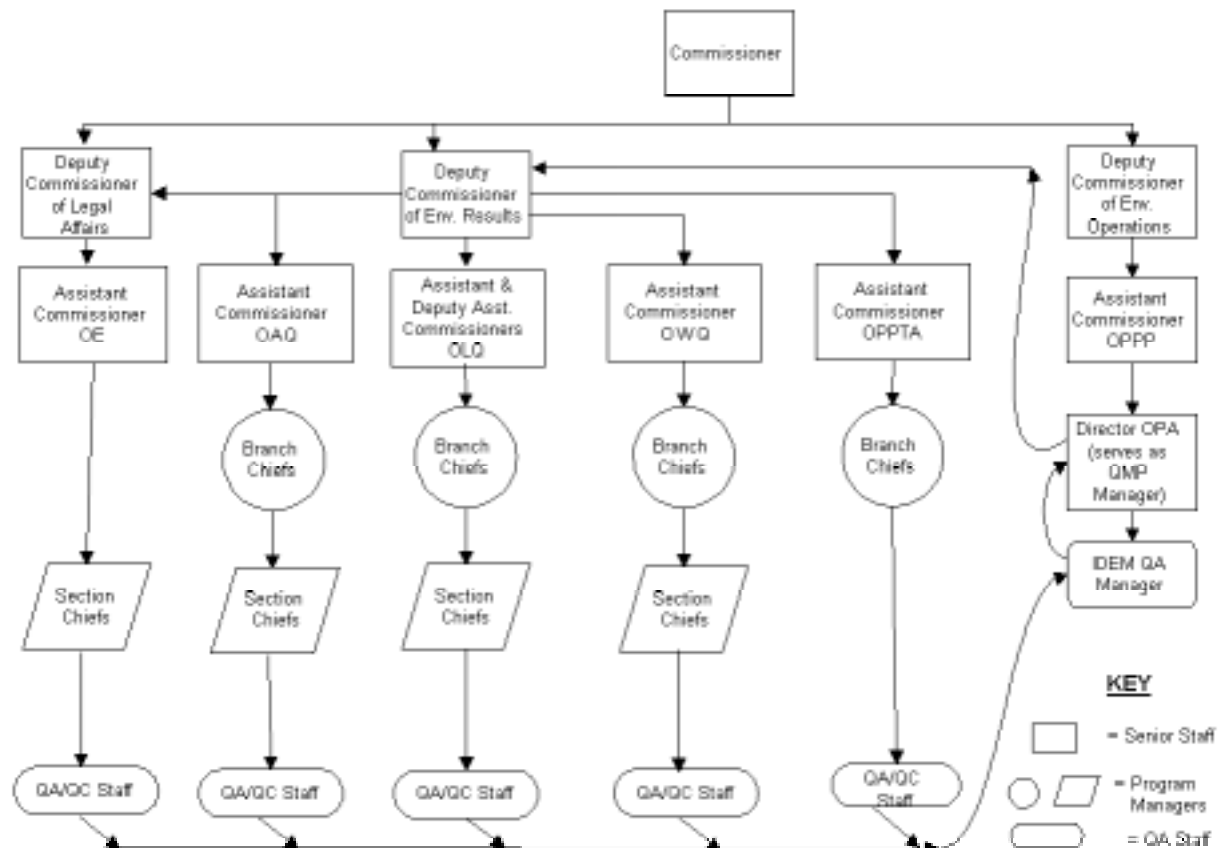
Internally, this document is available on the network drive at  
S:\Agency\QMP\CurrentVersion\.





# Chart 1

## IDEM Quality Assurance Org Chart





# Chart 2

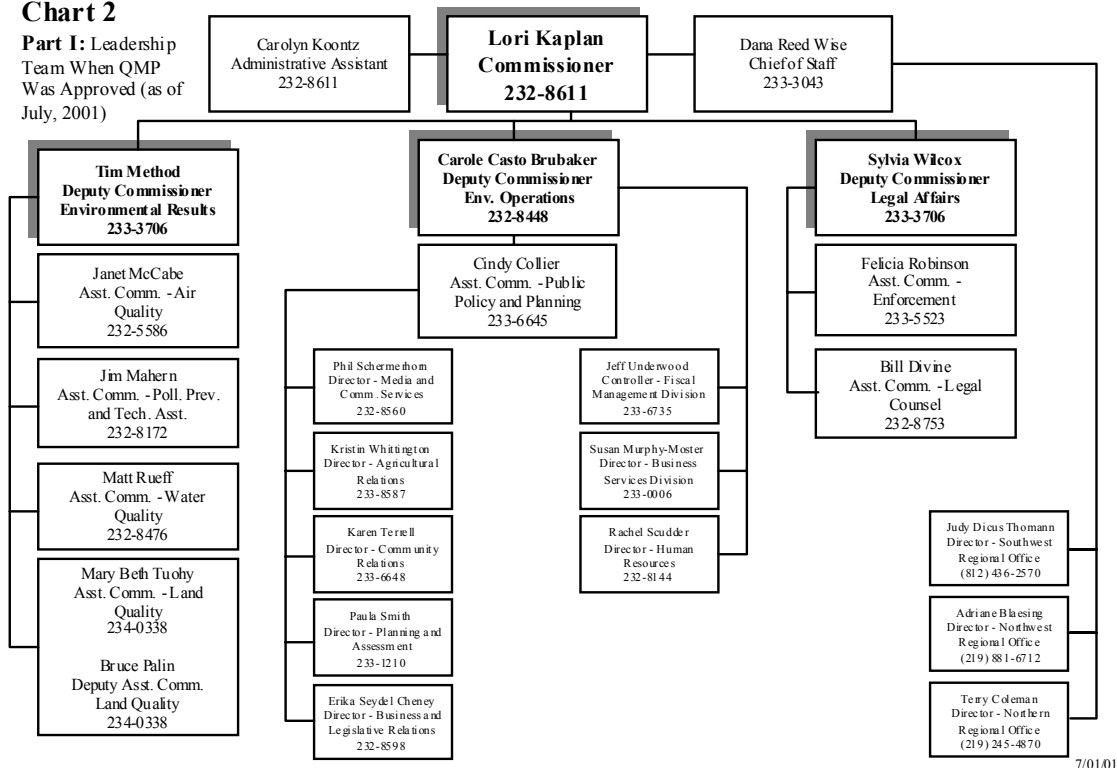
## IDEM - Leadership Team

### I. Leadership Team When QMP Was Approved (as of July, 2001)

#### Indiana Department of Environmental Management - Leadership Team

**Chart 2**

**Part I: Leadership Team When QMP Was Approved (as of July, 2001)**



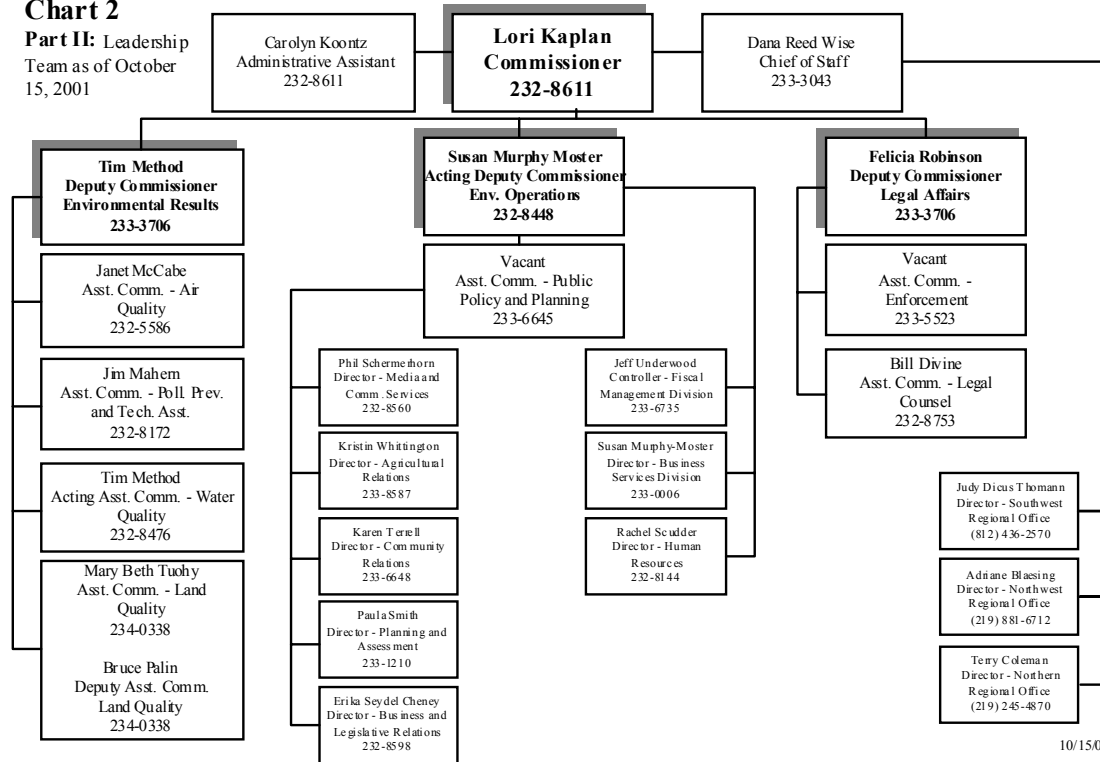
7/01/01

## II. Leadership Team (as of October 15, 2001)

### Indiana Department of Environmental Management - Leadership Team

**Chart 2**

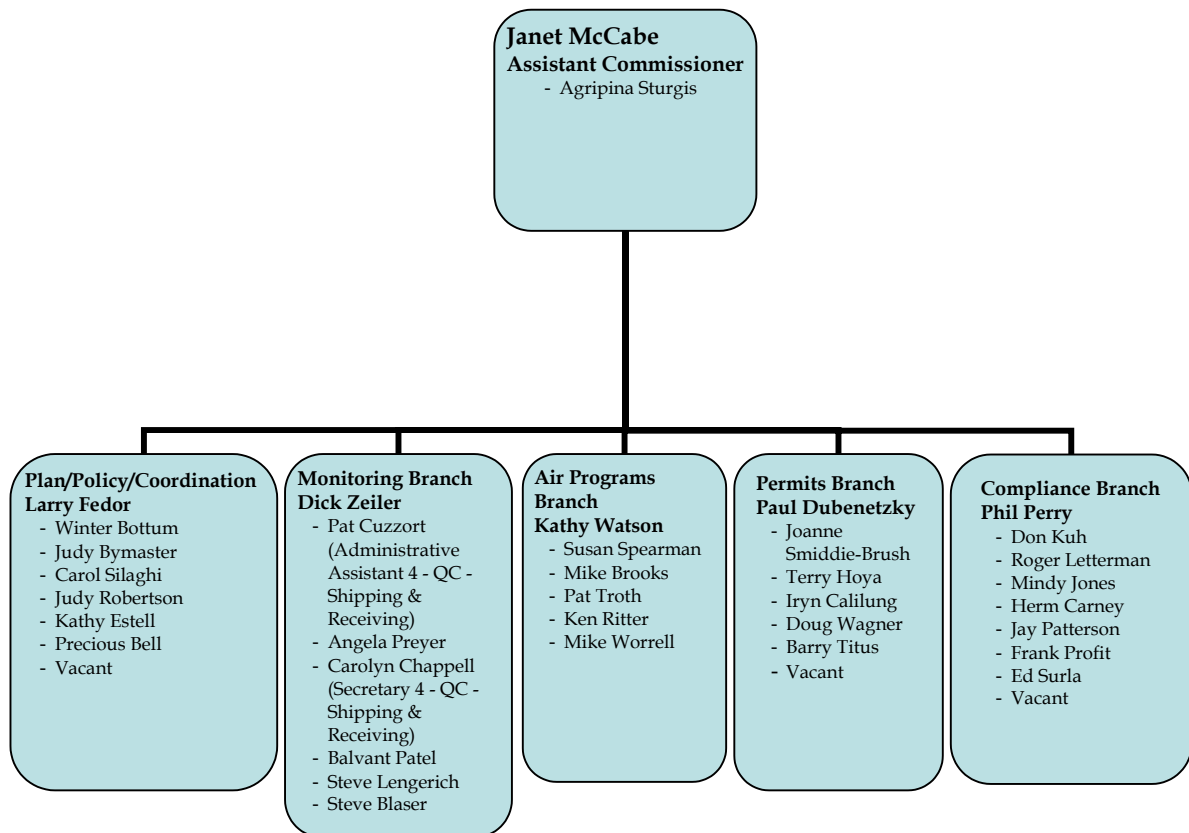
**Part II: Leadership**  
Team as of October  
15, 2001



10/15/01

# Chart 3

## IDEM Office of Air Quality Org Chart



### Legend (for OAQ charts on following pages):

SEMS3	Senior Environmental Supervisor 3
SEM1	Senior Environmental Manager 1
EE1	Environmental Engineer 1
EM2	Environmental Manager 2
ES3	Environmental Scientist 2
AA 4	Administrative Assistant 4

## I. Plan/Policy/Coordination

Plan/Policy/Coordination	
	<b>Larry Fedor</b> - Winter Bottum - Judy Bymaster - Carol Silaghi - Judy Robertson - Kathy Estell - Precious Bell - Vacant

## II. Monitoring Branch

Monitoring Branch		
<b>Dick Zeiler</b> - Pat Cuzzort (Administrative Assistant 4 - QC - Shipping & Receiving) - Angela Preyer - Carolyn Chappell (Secretary 4 - QC - Shipping & Receiving) - Balvant Patel - Steve Lengerich - Steve Blaser		
Air Toxics Monitoring Section	Quality Assurance Section	Ambient Monitoring Section
<b>Balvant Patel (SEMS3 - QC)</b> - Peter Brodek (CHEM2 - QC) - Raghu Sharma (CHEM2 - QC) - Mark Hansen (CHEM2 - QC) - Atul Bhatt (CHEM2 - QC) - Vacant (CHEM2 - QC)	<b>Steve Blaser (SEMS3 - QA)</b> - Stan Paulsel (SEM1 - QA) - Kirk Guckenberger (SEM1 - QA) - Tim Brown (EM2 - QA) - Roger Osburn (EM2 - QA) - Bettie Swift (Prg. Cord. 4. - QA) - Mitzi Simmons (EM2 - QA) - James Sherrill (EM2 - QA) - John Griffy (EM2 - QA) - Vacant (EM2 - QA)	<b>Steve Lengerich (SEMS3 - QC)</b> - Jim Parks (SEM1- QC - Information Manager) - Lisa Wagner (EM2 - QC) - Denton Moore (EM2 - QC) - Scott Keller EM2 - QC) - Gregory Dean - John Wicker (EM2 - QC) - Don Kolz (EM2 - QC) - Cole Remsburg (EM2 - QC) - Chris Anderson (EM2 - QC) - Kevin Barefoot (EM2 - QC) - Dan Carr - Oliver Whitted (AA 4 - QC - Shipping & Receiving)

### III. Programs Branch

<b>Air Programs Branch</b>			
<b>Kathy Watson</b> <ul style="list-style-type: none"> <li>- Susan Spearman</li> <li>- Mike Brooks</li> <li>- Pat Troth</li> <li>- Ken Ritter</li> <li>- Mike Worrell</li> </ul>			
<b>Planning &amp; Policy</b>	<b>Technical Support &amp; Modeling</b>	<b>Rules &amp; Outreach</b>	<b>Inspection/ Maintenance/ Billing</b>
<b>Mike Brooks</b> <ul style="list-style-type: none"> <li>- Scott Deloney</li> <li>- Joe Saligoe</li> <li>- Jon Bates (SEM1 - QA/QC)</li> <li>- Pat Daniel</li> <li>- John Welch</li> <li>- Susan Bem</li> <li>- Shane Moore</li> <li>- Tom Horton</li> </ul>	<b>Ken Ritter</b> <ul style="list-style-type: none"> <li>- Mike Mosier</li> <li>- Jay Koch (SEM1 - QA/QC)</li> <li>- Gengxin Hu</li> <li>- Mark Neyman</li> <li>- Michelle Boner</li> <li>- Judy Lombardo</li> <li>- Steve Sherman</li> <li>- Mark Derf</li> <li>- John Welch</li> <li>- Gail McGarrity</li> <li>- Shri Harsha</li> <li>- Jeff Stoakes</li> <li>- Vacant</li> </ul>	<b>Pat Troth</b> <ul style="list-style-type: none"> <li>- Roger Letterman</li> <li>- Kiran Verma</li> <li>- Suzanne Whitmer</li> <li>- Kennye Johnson</li> <li>- Janet Perkowski</li> <li>- Jerri Curless</li> <li>- Jean Beauchamp</li> <li>- Amy Morris</li> <li>- Chrystal Amr</li> <li>- Victoria Cluck (Radon Program when funded)</li> </ul>	<b>Mike Worrell</b> <ul style="list-style-type: none"> <li>- Shawn Seals</li> <li>- Phil Doyle</li> <li>- Deborah Cole</li> <li>- Chet Bohannon (EM2 - QA/QC)</li> </ul>

## IV. Permits Branch

Permits Branch				
<b>Paul Dubenetzky</b> <ul style="list-style-type: none"> <li>- Joanne Smiddie-Brush</li> <li>- Terry Hoya</li> <li>- Iryn Calilung</li> <li>- Doug Wagner</li> <li>- Barry Titus</li> <li>- Vacant</li> </ul>				
Permit Review 1	Permit Review 2	Permit Administration Development	Policy and Guidance	Contract Management
<b>Terry Hoya</b> <ul style="list-style-type: none"> <li>- Trip Sinha</li> <li>- Don Poole</li> <li>- Janusz Johnson</li> <li>- Allen Davidson</li> <li>- Nysa James</li> <li>- Aida Deguzman</li> <li>- Holly Stockrahm</li> <li>- Barb Goldblatt</li> <li>- Mike Swinney</li> <li>- Regina Dancy</li> <li>- Falicity Lao</li> <li>- Gary Saini</li> <li>- Vacant</li> <li>- Vacant</li> <li>- Vacant</li> </ul>	<b>Iryn Calilung</b> <ul style="list-style-type: none"> <li>- Michele William</li> <li>- Mack Sims</li> <li>- Vickie Cordell</li> <li>- Nisha Sizemore</li> <li>- Robert Crawford</li> <li>- Kathy Moore</li> <li>- Melissa Groch</li> <li>- Sandra McCain</li> <li>- Kim Titzer</li> <li>- Rachel Meredith</li> <li>- Autumn Marker</li> <li>- Daniel Harper</li> <li>- David Howard</li> <li>- Vacant</li> <li>- Vacant</li> <li>- Vacant</li> </ul>	<b>Vacant</b> <ul style="list-style-type: none"> <li>- Pam Way</li> <li>- Chris Hammack</li> <li>- Khira Barua</li> <li>- Gloria Eley</li> <li>- Sara Cloe</li> <li>- Janet Mobley</li> <li>- Gary Freeman</li> <li>- Goldie Roberts</li> <li>- Stephanie Elston</li> <li>- Donna Dickison</li> <li>- Dorothy Wray</li> <li>- Lisa Hayhurst</li> <li>- Vacant</li> <li>- Vacant</li> <li>- Vacant</li> <li>- Vacant</li> </ul>	<b>Doug Wagner</b> <ul style="list-style-type: none"> <li>- Eugene Paik</li> <li>- Bob Ondrusek</li> <li>- Rebecca Mason</li> <li>- Stacey Pfeffer</li> <li>- Polly Hite</li> <li>- Heidi Huntsinger</li> <li>- Kim Cottrell</li> <li>- Vacant</li> <li>- Vacant</li> </ul>	<b>Barry Titus</b> <ul style="list-style-type: none"> <li>- Kim Wade</li> <li>- Mindy Hahn</li> <li>- Duane VanLaningham</li> <li>- Barb VanWinkle</li> </ul>



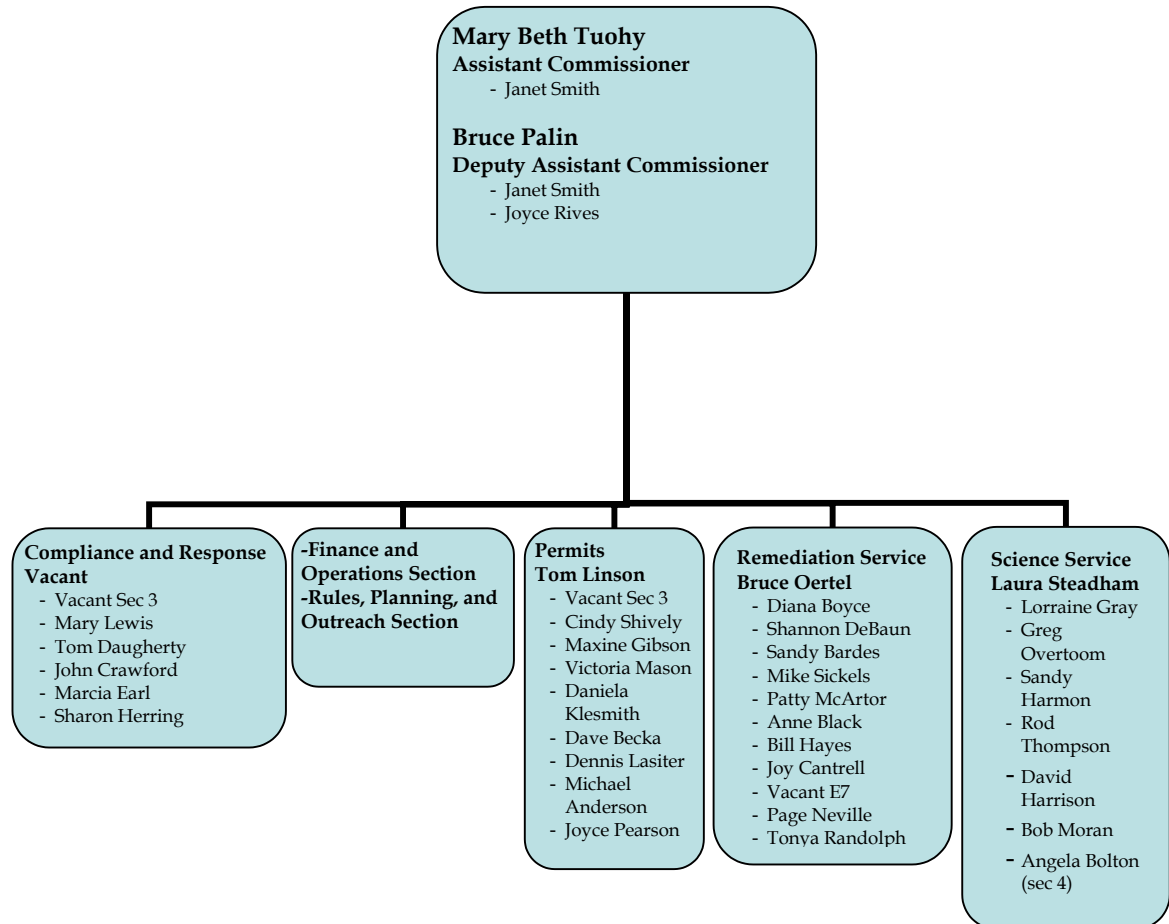
## V. Compliance Branch

Compliance Branch			
<b>Phil Perry</b> - Don Kuh - Roger Letterman - Mindy Jones - Herm Carney - Jay Patterson - Frank Profit - Ed Surla - Vacant			
Air Compliance 1	Air Compliance 2	Asbestos/Lead Section	Compliance Data
<b>Herm Carney</b> - Patrick Powlen (ES3 - QC) - Dan Hancock (SEM1 - QC) - Kim Lynville - Vacant (EM2 - QC) - Marilyn Kidwell - DJ Knotts (EM2 - QC) - Dave Rice (EM2 - QC) - Joe Foyst (EM2 - QC) - Vacant (EM2 - QC)	<b>Jay Patterson</b> - James Thorpe (EM2 - QC) - Ray Schick (SEM1 - QC) - Dick Sekula (SEM1 - QC) - Vaughn Ison (EM2 - QC) - Joanne Elliot - Marc Goldman (ES3 - QC) - Warren Greiling (EM2 - QC) - Jennifer Dorn (ES3 - QC)	<b>Frank Profit</b> - Dan Lamberson (SEM1 - QA/QC) - David White (SEM1 - QA/QC) - Vicki Schoen (ES3 - QA/QC) - Dan Stamatkin (EM2 - QA/QC) - Susan Eaden (AA5 - QA/QC) - John Clevenger (EM2 - QA/QC) - Linda Williams (AA4 - QA/QC) - Linda Lynch (AA5 - QA/QC) - Ryan Capp (AA4 - QA/QC) - Barbara Gordon (Sec4 QA/QC)	<b>Ed Surla</b> - Stephen Friend (EE1 - QA/QC) - Dave Cline (SEM1 - QA/QC) - Karen Nowak - Marie Jackson - Jarrod Fisher (EM2 - QC) - Quintin Flory (ES3 - QC) - Vacant (ES3 - QC) - Vacant (EM2 - QC)



# Chart 4

## IDEM Office of Land Quality Org Chart



## I. Compliance and Response Branch

Compliance and Response Branch					
<b>Vacant</b> - Vacant Sec 3 - Mary Lewis - Tom Daugherty - John Crawford - Marcia Earl - Sharon Herring					
Underground Storage Tank Group	Industrial Waste Group #2	Industrial Waste Group #1	Tech Compliance Group	Emergency Response Group	Agriculture and Solid Waste Compliance
<b>Skip Powers</b> - Chuck Phipps - Barbara Humphrey - Brian Davenport - Anthony Likins - Bill Myers - Nawal Hopkins	<b>Bruce Kizer<sup>3</sup></b> - Roger Wilson <sup>2</sup> - Susan Lowry - Bob Malone <sup>2</sup> - Lisa Frost - Kim Whittington - Mike Pennington <sup>3</sup> - Debbie Chesterson - Rick Roudebush - Scott Draschill - Joyce Billington - Scott Ormsby (NWRO) 2	<b>Rosemary Cantwell<sup>3</sup></b> - Gary Romesser <sup>2</sup> - Lisa Smith - Theresa Pichtel - Chris Lowell - George Ritchotte <sup>2</sup> - Christina Halloran <sup>3</sup> - Anne Kominoski - Mark Espich <sup>2</sup> - Kimberley Davin - Vacant EM 2	<b>Charles Grady<sup>4</sup></b> - John Naddy - Lee Parsons - Mike Randall <sup>5</sup> - M. Korkzan - Said Asgari - B. Ossivand - Tracy Barnes - Brian Wagner - Dave Berrey - Randy Jurgens	<b>Max Michael</b> - Dorel Hunt - Greg Carter - Brian Smith - Jason Sewell - David Cage - Dave Daugherty - Rob Truelove - Lavern Beauchamp - Kristi Dixon - Ian Wilson	<b>Aaron Lauster</b> - Vacant EM 2 - Randy Jones - Rick Schroeder - Stu Miller - Kaye Driskill - Bob Snodgrass - Jim Evans - Tim Hotz - David Brown - Ann Weinkauff - Julie Bowers

<sup>2</sup> Conduct PCB Inspections

<sup>3</sup> PCB Inspection Oversight

<sup>4</sup> PCB Grants Contact

<sup>5</sup> PCB Sampling Coordinator & Analytical Review

## II. Finance and Operations & Rules, Planning, and Outreach Sections

Finance and Operations Section	Rules, Planning, and Outreach Section
<b>Paul Serguta</b> <ul style="list-style-type: none"> <li>- Phil Wuensch</li> <li>- David Chabal</li> <li>- Sue Esserman</li> <li>- Denise Shelby</li> <li>- John Mendel</li> <li>- Randy Farrand</li> <li>- Pat Beeler</li> <li>- Sandra Esarey</li> <li>- Vacant Program Coordinator 3</li> <li>- Lorraine Rosio</li> <li>- Nicole Kane</li> <li>- Faye Barrett</li> <li>- Nancy Heacox</li> <li>- Steve Browning (Excess Liability Trust Fund)</li> <li>- Linda Myles</li> <li>- Patricia White</li> <li>- Vacant AA 4</li> </ul>	<b>Mike Dalton</b> <ul style="list-style-type: none"> <li>- Lynn West</li> <li>- Steve Mojonnier</li> <li>- Marjorie Samuel</li> <li>- Susan Gross</li> <li>- Pam Koons</li> <li>- Monica Hartke-Tarr</li> <li>- Louis McFadden</li> <li>- Bonnie Nash</li> </ul>

### III. Permits Branch

Permits Branch			
<b>Tom Linson</b> <ul style="list-style-type: none"> <li>- Vacant Sec 3</li> <li>- Cindy Shively</li> <li>- Maxine Gibson</li> <li>- Victoria Mason</li> <li>- Daniela Klesmith</li> <li>- Dave Becka</li> <li>- Dennis Lasiter</li> <li>- Michael Anderson</li> <li>- Joyce Pearson</li> </ul>			
Solid Waste Permits	Hazardous Waste Permits	Geology Group	Engineering Group
<b>Jerry Rud</b> <ul style="list-style-type: none"> <li>- George Cesnik</li> <li>- Bill Holland</li> <li>- Debby Baker</li> <li>- Kari Keller-Phillips</li> <li>- Jon Ware</li> <li>- Kim Mayo</li> <li>- Rick Phillips</li> <li>- John Hale</li> <li>- Kirsten Felts</li> <li>- Jeff Harmon</li> <li>- Michael Dunn</li> <li>- Brenda Stephanoff</li> <li>- Jim McCurdy</li> <li>- Dan Bruggen</li> <li>- Vacant SEM 1</li> </ul>	<b>Vic Windle</b> <ul style="list-style-type: none"> <li>- Glynda Oakes</li> <li>- Ruth Jean</li> <li>- Jeff Workman</li> <li>- Don Stilz</li> <li>- Vacant Geologist 2</li> <li>- Paula Bansch</li> <li>- Michelle Timmermann</li> <li>- Rob Marshall</li> <li>- Becky Joniskan</li> <li>- Jeff Stevens</li> <li>- Doug Griffin</li> </ul>	<b>Karyl Schmidt</b> <ul style="list-style-type: none"> <li>- Harold Templin</li> <li>- Howard Harmless</li> <li>- Robert Martin</li> <li>- Holly Simpson</li> <li>- Ron Fisher</li> <li>- Joe Woods</li> <li>- Robert Hacker</li> <li>- Mary Hoover</li> <li>- William Robinson</li> <li>- Troy Weaver</li> <li>- Mike Elliott</li> <li>- John Guerrattaz</li> <li>- Thomas Brown</li> <li>- Hamid Masood</li> </ul>	<b>Shyamala Raman</b> <ul style="list-style-type: none"> <li>- Anup Raychowdhury</li> <li>- Ghodrat Hiadari</li> <li>- Alan Schmidt</li> <li>- Larry Mansue</li> <li>- Runfa Shi</li> <li>- Zaidoon Al-Saleem</li> <li>- Eric Schmidt</li> <li>- Mirella Swaynie</li> <li>- Jeff Teague</li> <li>- Mike Sonnefeld</li> <li>- John Harper</li> </ul>

## IV. Remediation Service Branch

Remediation Service Branch				
<b>Bruce Oertel</b> <ul style="list-style-type: none"> <li>- Diana Boyce</li> <li>- Shannon DeBaun</li> <li>- Sandy Bardes</li> <li>- Mike Sickels</li> <li>- Patty McArtor</li> <li>- Anne Black</li> <li>- Bill Hayes</li> <li>- Joy Cantrell</li> <li>- Vacant E7</li> <li>- Vacant E7</li> <li>- Page Neville</li> <li>- Tonya Randolph</li> </ul>				
Voluntary Cleanup Group	Leaking Tank Group	Federal Cleanup Superfund/NRDA	State Cleanup, Corrective Action RCRA, Removal	Site assessment, Brownfields, and Abandoned Landfill
<b>Peggy Dorsey</b> <ul style="list-style-type: none"> <li>- Andrea Robertson</li> <li>- Richard Harris</li> <li>- Damon Ridley</li> <li>- Ruth Williams</li> <li>- Bill Wieringa</li> <li>- Chris Bauer</li> <li>- Thoma Mattox</li> <li>- Brent Dayharsh</li> <li>- Mike Habeck</li> <li>- Vacant EM 2</li> <li>- Vacant ES 3</li> </ul>	<b>Craig Schroer</b> <ul style="list-style-type: none"> <li>- Roy Harbert</li> <li>- Doug Bartz</li> <li>- John Manson</li> <li>- Roxann Sanders</li> <li>- Jaroslaw Petruniw</li> <li>- Jeff Turley</li> <li>- Tim Veatch</li> <li>- Cliff Rice</li> <li>- Jason Goulet</li> <li>- Kathy Simonson</li> <li>- Vacant ES 3</li> <li>- Katie Schneider</li> </ul>	<b>Rex Osborn</b> <ul style="list-style-type: none"> <li>- Sean Grady</li> <li>- Stephanie Riddle</li> <li>- Jessica Huxhold-Fliss</li> <li>- James Smith</li> <li>- Pat Likins</li> <li>- Resa Ramsey</li> <li>- Vacant EM 2</li> <li>- Kevin Herron</li> <li>- P. Kasarabada</li> <li>- Scott Davis</li> <li>- Vacant ES 3</li> </ul>	<b>Harry Atkinson</b> <ul style="list-style-type: none"> <li>- Dawn Shirley</li> <li>- Nilia Moberly</li> <li>- Lynette Schrowe</li> <li>- Guy O'Neill</li> <li>- Chris Myer</li> <li>- John Gunter</li> <li>- Jeffrey Kavanaugh</li> <li>- Ken Gill</li> <li>- Ryan Groves</li> <li>- Gerald O'Callaghan</li> <li>- Ken McDaniel</li> <li>- Aaron Green</li> </ul>	<b>Gabriele Hauer</b> <ul style="list-style-type: none"> <li>- Rich Molini</li> <li>- Mark Jaworski</li> <li>- Doug Fisher</li> <li>- Tracy Concannon</li> <li>- Michele Oertel</li> <li>- Billy Giles - (Section Geologist)</li> <li>- Tim Johnson</li> <li>- Vacant EM 2</li> <li>- Dan Chesterson</li> <li>- James Sullivan</li> <li>- Keith Veal (Also EJ Coordinator)</li> <li>- Pat Colcord</li> <li>- Andrew Scanlan (Grad Intern)</li> <li>- Joe Keithley (Grad Intern)</li> <li>- Susan Tynes</li> <li>- Trevor Fuller</li> </ul>

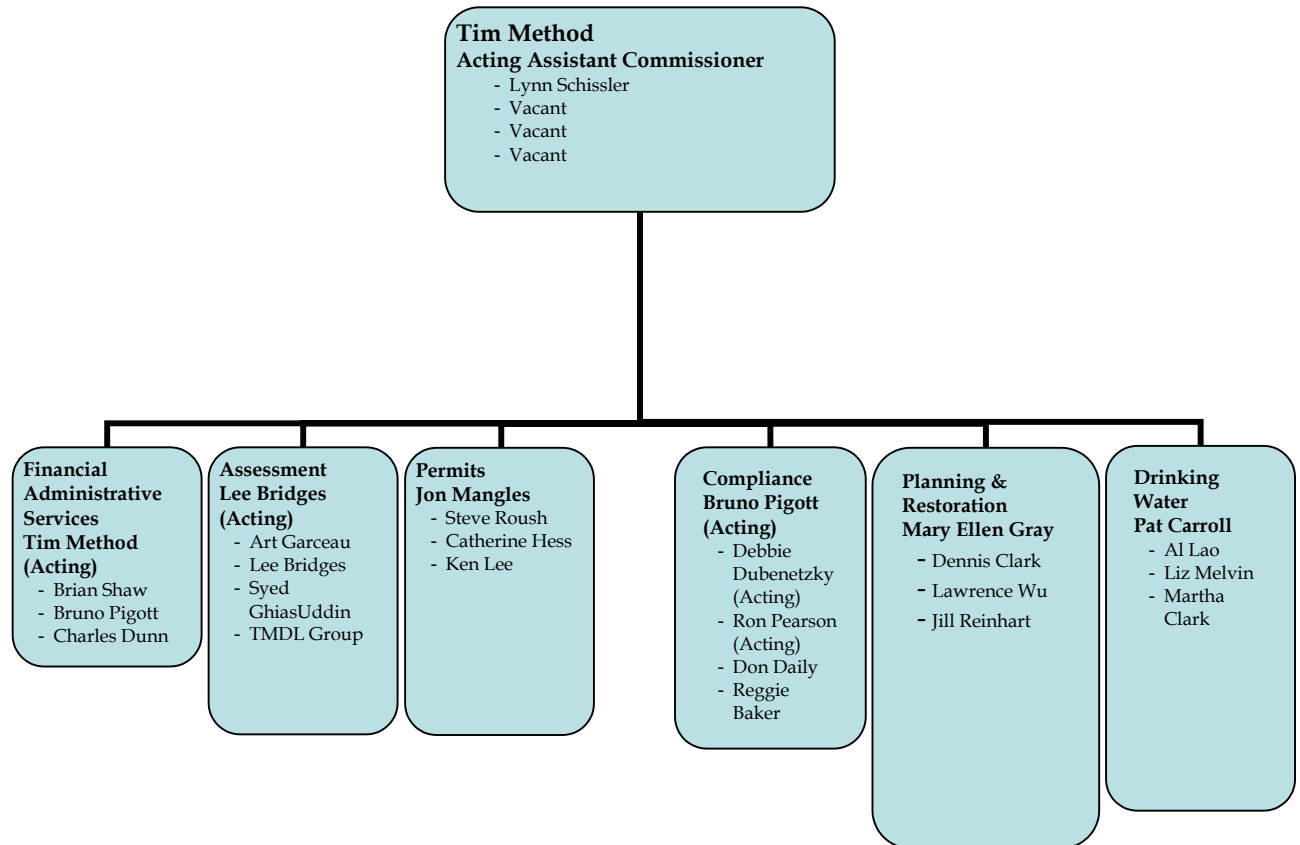
## V. Science Service Branch

Science Service Branch				
<b>Laura Steadham</b> <ul style="list-style-type: none"> <li>- Lorraine Gray</li> <li>- Greg Overtoom</li> <li>- Sandy Harmon</li> <li>- Rod Thompson</li> <li>- David Harrison</li> <li>- Bob Moran</li> <li>- Angela Bolton</li> </ul>				
<b>Chemist Services (A)</b>	<b>Chemist Services (B)</b>	<b>Geological Services</b>	<b>Applied Science Technologies</b>	<b>Facilities Data Analysis</b>
<b>Steve Buckel</b> <ul style="list-style-type: none"> <li>- Allyn DeLong</li> <li>- Devasey Koottungal</li> <li>- Jasbir Lakhan</li> <li>- Troy South</li> <li>- Jim Risch</li> <li>- Sandra Roberts</li> <li>- Steve Sommer</li> <li>- Jason Murdoch</li> <li>- Wilfred Michira</li> <li>- Craig Pender (temp)</li> <li>- Edward Hale III</li> <li>- Kristy McIntire</li> <li>- Vacant Chem 3</li> </ul>	<b>Barry Steward</b> <ul style="list-style-type: none"> <li>- Suzanne Volk</li> <li>- Anthony Burke</li> <li>- Namatra Patel</li> <li>- Jim Caylor</li> <li>- Billy Crawford</li> <li>- Nancy Britt</li> <li>- Lloyd Wilkinson</li> <li>- Michael Richardson</li> <li>- Craig Barker</li> <li>- Steve Spurgeon</li> <li>- Jawad Syed</li> <li>- Fran Metcalfe</li> </ul>	<b>Larry Studebaker</b> <ul style="list-style-type: none"> <li>- Phil Schonhoff</li> <li>- William Davis</li> <li>- Kevin Houppert</li> <li>- John Clark</li> <li>- Steven Poe</li> <li>- Eric Johanson</li> <li>- Kevin Davis</li> <li>- Sarah Finley</li> <li>- Sampath Kumar</li> <li>- Robert Sonnefield</li> <li>- Nicole Adams</li> <li>- Nancy Dollar</li> <li>- Becky Travis</li> </ul>	<b>Jeff Sewell</b> <ul style="list-style-type: none"> <li>- Kim Vedder-Risch</li> <li>- Sandie Meanor</li> <li>- Rose Myers</li> <li>- Lorraine Wright</li> <li>- Steve Davis</li> <li>- Brian Murray</li> <li>- Kevin Miller</li> <li>- Shane Moore</li> <li>- Vacant EE3</li> <li>- Diane Osborn</li> <li>- Jeff Moody</li> <li>- Brian Wolff</li> <li>- Laura Dresen</li> <li>- Vacant ES 3</li> <li>- Vacant SEM 1</li> </ul>	<b>Julian Mills</b> <ul style="list-style-type: none"> <li>- Heather Draschil</li> <li>- Jenny Dooley</li> <li>- Michelle Weddle</li> <li>- Marcus Johnson</li> <li>- Tauna Earl</li> <li>- Marilyn Hansen</li> <li>- Karen Purtell</li> <li>- Richard Worth</li> <li>- Shannon DeBaun</li> </ul>



# Chart 5

## Office of Water Quality Org Chart



## I. Financial Administrative Services Branch

Financial Administrative Services Branch		
<b>Tim Method (Acting)</b> - Lynn Schissler - Vacant - Vacant - Vacant		
Operations	SRF Management	Data Management
<b>Brian Shaw</b> - Lance Myers - Michael Mendyk - Don Finney - David Duff - Julie Bye - Pam Stelzner - Vacant - Vacant	<b>Bruno Pigott</b> - Arthur Carter - Cortney Stover (part-time) - Max Henschen - Asit De - Yasser Elkhatab - John Fisher - Doris Roberson - Dharmend Parikshak - Shelley Reynolds - Melinda Brondyke (half-time) - Heather Baker (half-time)	<b>Charles Dunn</b> - Dan Vissing - Rose McDaniel - Anita Mathews - Jeff Ewick - Kevin Bump - Joyce Miles (temp) - Deborah Brents - Helen Demmings - Vacant

## II. Assessment Branch

<b>Assessment Branch</b>			
<b>Lee Bridges (Acting)</b>			
<b>Surveys</b>	<b>Bio-Studies</b>	<b>Env. Toxicology</b>	<b>TMDL</b>
<b>Arthur Garceau</b> <ul style="list-style-type: none"> <li>- Stephen Boswell</li> <li>- Timothy Beckman</li> <li>- Joel Armstrong</li> <li>- Roseann Hirschinger</li> <li>- Charles Bell</li> <li>- Joanna Wood</li> <li>- David Arnold</li> <li>- Jim Butler</li> <li>- James McFall</li> <li>- Cindy Martin</li> <li>- Ryan McDuffee</li> <li>- Mark Holdeman</li> <li>- Carl Christensen</li> <li>- Dana Veneck</li> <li>- Elizabeth Klicker</li> <li>- Sammy Gibson</li> </ul>	<b>Lee Bridges</b> <ul style="list-style-type: none"> <li>- Steve Newhouse</li> <li>- Todd Davis</li> <li>- Jim Stahl</li> <li>- Stacy Sobat</li> <li>- Carol Newhouse</li> <li>- Sherry Martin</li> <li>- Anthony Branam</li> <li>- Melissa Hall</li> <li>- Carl Woodrich</li> <li>- Stacey Durr</li> <li>- David Stahl</li> </ul>	<b>Syed Ghias-Uddin (SEM Supervisor 3)</b> <ul style="list-style-type: none"> <li>- Betty Ratcliff (Chemist 2)</li> <li>- Kris Kehoe (Chemist 2)</li> <li>- Tim Bowren (Chemist 2)</li> <li>- Vacant (Chemist 2)</li> <li>- Elaine Whitelaw (Clerk Asst 4)</li> </ul>	<b>Vacant</b> <ul style="list-style-type: none"> <li>- Cindy Wagner</li> <li>- Mustafa Ak</li> <li>- John Prast</li> <li>- Stacy Goodwin</li> <li>- Tim Kroeker</li> <li>- Jennifer Hutchison</li> <li>- Julie Buening</li> <li>- Dan Knowles</li> <li>- Vacant</li> </ul>

### III. Permits Branch

Permits Branch		
<b>Jon Mangles</b> - Charnell Carter - Damita Ivey - Gus Jumawan		
Industrial	Municipal	Facility Construction
<b>Steve Roush</b> - Chenjy Song - John Elliott - Christina Rousch - Gary Pavich - Stan Rigney - Joseph Gwinn - Sonja Williams - George Oliver - Christina Lowry - Sherri Owens	<b>Catherine Hess</b> - Roger Rylatt - Gale Ferris, Jr. - Leigh Voss - Jerry Dittmer - Bill Stenner - Michael Thompson - Sharon Parker - Jay Hanko - John Donnellan - Gurdeo Sondhe	<b>Ken Lee</b> - D. S. Patel - Levy Soliven - Lewellyn Soliven - Dale Schnaith - Sherri Schuelke - Sholeh Hourmozdi - James Worley - Matthew Florczyk - Vacant EE3 - Jackie Noel - Johnnal Bryant - Amarilys O'Connell

### IV. Compliance Branch

Compliance Branch			
<b>Bruno Pigott (Acting)</b> - Rebecca McMonigle - Lonnie Brumfield - H.T. Pham			
Wet Weather	Operator Assistance and Pretreatment	Facilities Inspections	Facilities Compliance
<b>Reggie Baker</b> - Dave Tennis - Lori Gates - Lynn Riddle - Vacant (EE 2) - Vacant (EE 3) - Mark Balazz - Michael Perriguay - Jay Davis - Craig Lawson - Donna Palmer	<b>Debbie Dubenetzky (Acting)</b> - Phil Preston - Robert Denman - Bill Blue - Kevin Cohoon - Natalie Green - Kevin Green - Barbara McDowell - Christine Hightower - Richard Weisfeld - Dyian Jones	<b>Ron Pearson (Acting)</b> - Rex Counterman - Andrew Schmidt - Robin Nessel - Lynn Stackhouse - Oscar Barker - Subhen Ghosh - Richard Alley - Kevin Hotz - Dan Miller - Ron Pearson	<b>Don Daily</b> - Greg Glover - Gary Starks - Elizabeth Brown - Pamela Grams - Arabinda Ray - Mike Miles

## V. Planning and Restoration Branch

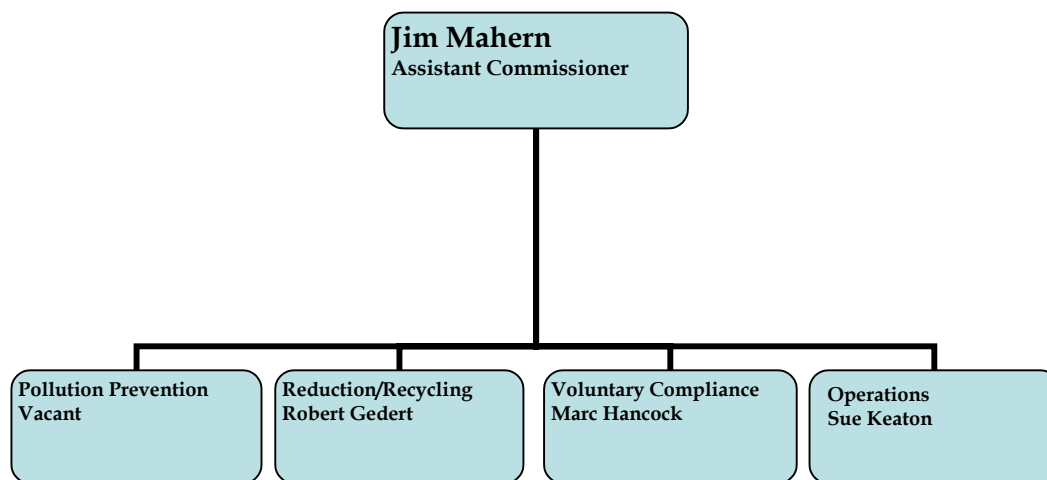
Planning and Restoration Branch		
<b>Mary Ellen Gray</b> - Lynne Newlon - Delores Marquam		
WQ Standards	Rules	Watershed Management
<b>Dennis Clark</b> <b>(SEM Supervisor 3)</b> - Andrew Pelloso - Linda Schmidt (SEM1) - James Robb - Marty Maupin - Steve West - James Meek - David Kallander - Mary Lou Renshaw - Vacant	<b>Lawrence Wu</b> <b>(SEM Supervisor 3)</b> - MaryAnn Stevens - Betsy Rouse - Megan Wallace - Kiran Verma	<b>Jill Reinhart</b> <b>(SEM Supervisor 3)</b> - Wesley Stone - Dothier Mason - Doug Campbell - Laura Bieberich - Amy Reeves - Kathy Hagan - Bonny Elifritz (EM 2) - Jody Arthur (EM 2)  <b>NRCS—Natural Resource Conservation Services Liaisons:</b> - Susan McLoud (Federal) - James Dunaway (Federal) - Matt Jarvis (Federal) - Andy Ertel (Federal)

## VI. Drinking Water Branch

<b>Drinking Water Branch</b>			
<b>Pat Carroll</b> - Kimberly Young - Ricardo Miranda			
<b>Compliance</b>	<b>Inspection</b>	<b>Ground Water</b>	<b>Capacity Development</b>
<b>Al Lao</b> - Wayne Wang - Larry Conquergood - Lilia Park - Paul Penumudi - David Forsee - Linda Edwards - Jake Abbott - Michael Amick (temp) - Vacant (ES 3) - Joseph Stapinski - Sandra DeCastro - April Hupp (temp) - Steve Vaughn - Janet Matthews - Judy Kennedy - Tonya Hollingsworth	<b>Elizabeth Melvin</b> - Wayne Brattain - Mary Hollingsworth - Chris Hoesli - Carolyn Chappell - Paul Dick - Kenneth Brown - Jacqueline Tyler - Augusta Harris - Ruby Keslar - Paul Mahoney	<b>Martha Clark</b> - Mike Yarling - Gregg LeMasters - Mitt Denney (temp) - Lance Mabry - Melinda Brondyke - (half-time) - Heather Baker - (half-time) - Robert Hamilton, Jr. - Eric Oliver - James Harris - Vacant (geologist 2)	- Valentina Bell - Arnold Bockrand - Heidi Nassiri - Romeo Manalo

## Chart 6

### Office of Pollution Prevention and Technical Assistance Org Chart

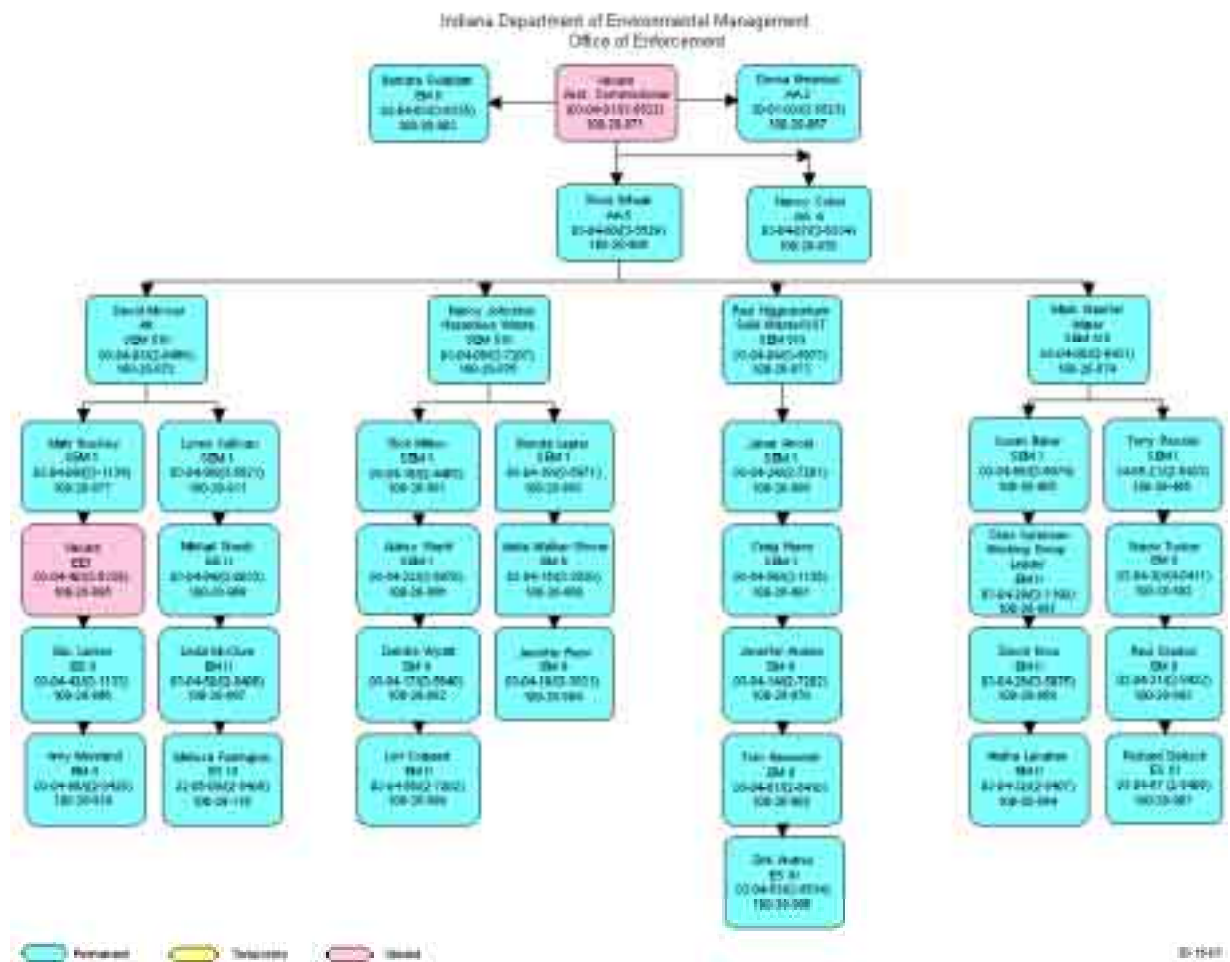


Office of Pollution Prevention and Technical Assistance				
<p style="text-align: center;"><b>Jim Mahern</b> Assistant Commissioner</p>				
Pollution Prevention	Reduction/Recycling	Voluntary Compliance	Operations	Other
<b>Vacant</b> - Charlie Sullivan - Harry Davis (Tri QA/QC) - Hani Sharaya - Derek Eisman (Tri QA/QC)	<b>Robert Gedert</b> - Al Melvin - Steven Bogg - Cindy Daily - Alysia Gard	<b>Marc Hancock</b> - C. Steven Poe - Vacant SEM 1 - Mark Stoddard - Dave Wintz - Karen Teliha - Beth Henly Bell - Sandra McCain - Drew Price	<b>Sue Keaton</b> - Bobbi Steiff - Carol Fuller - Rhonda Acquaye - Jackie Miller - Terry Lewis - Brian Stevens	- Larry Haag (SW Office) - Amy Burns (NW Office) - Jim Weingart (N Office)



# Chart 7

## IDEM Office of Enforcement Org Chart





# Chart 8

## Northwest Regional Office Org Chart

Northwest Regional Office					
<b>Adriane Blaesing</b> <b>Director</b> - Janice Melton - Office Administrative Assistant - Alex DaSilva - RAP Coordinator - Kathy Luther - LAMP Director - Maria Person – Part Time Secretary					
<b>Ralph McCullers</b> <b>Deputy Director</b>					
Emergency Response	OPPTA	Solid Waste	Asbestos-Lead	LUST/UST	
John Nordine	Amy Burns	Robert Lamprecht William Burns	Cathy Csatari	Joe Hillier (LUST) David Connolly (UST)	
Ambient Air Monitoring Program	Industrial Water Inspections	Waste Water Treatment Inspector	Air Inspectors	Hazardous Waste Inspector	Criminal Investigators
Mitzi Simmons	Michael Kuss	Nicholas Ream	Rick Massoels David Sampias John Simmons Ramesh Tejuja Letty Zepeda	Scott Ormsby	Tom Sak Jim Lynch



# Chart 9

## Northern Regional Office Org Chart

Northern Regional Office			
Terry Coleman Director - Cindy McIntyre (AA 4)			
David Lawrence Deputy Director			
Air	Waste Water	Drinking Water	Solid Waste
Greg Wingstrom Doyle Houser Paul Karkiewicz Richard Reynolds Tony Telath--Asbestos	Cindy Galvan Eddy Depositar	Dan Plath Lucio Ternieden	Steven Schafer
Industrial Waste	OPPTA		OER
John Howard	Jim Weingart		Bill Morgan



# Chart 10

## Southwest Regional Office Org Chart

